University of Wisconsin-Whitewater

Curriculum Proposal Form #3

## New Course

**Effective Term:**

**Subject Area - Course Number:** **ECON 735 Cross-listing:**

(See Note #1 below)

**Course Title:** (Limited to 65 characters) Research Methods and Data Handling

**25-Character Abbreviation:** Research Methods

**Sponsor(s):** David Welsch and Yamin Ahmad

**Department(s):** Economics

**College(s):**

# **Consultation took place**: NA Yes (list departments and attach consultation sheet)

Departments:

**Programs Affected:** **None**

**Is paperwork complete for those programs?** (Use "Form 2" for Catalog & Academic Report updates)

NA  Yes  will be at future meeting

**Prerequisites:** ECON 738 - Quantitative Methods in Economics; ECON 733 - Econometrics I

**Grade Basis:**  Conventional Letter  S/NC or Pass/Fail

**Course will be offered:**  Part of Load  Above Load

On Campus  Off Campus - Location

**College:**  **Dept/Area(s):** ECON

**Instructor:** David Welsch and Yamin Ahmad

*Note: If the course is dual-listed, instructor must be a member of Grad Faculty.*

**Check if the Course is to Meet Any of the Following:**

Technological Literacy Requirement  Writing Requirement

Diversity  General Education Option:

Note: For the Gen Ed option, the proposal should address how this course relates to specific core courses, meets the goals of General Education in providing breadth, and incorporates scholarship in the appropriate field relating to women and gender.

**Credit/Contact Hours:** (per semester)

Total lab hours: 0 Total lecture hours: 48

Number of credits: 3 Total contact hours: 48

**Can course be taken more than once for credit? (Repeatability)**

No  Yes If "Yes", answer the following questions:

No of times in major:       No of credits in major:

No of times in degree:       No of credits in degree:

Proposal Information: ([***Procedures for form #3***](http://acadaff.uww.edu/UCC/Curriculum_Handbook_09/Procedures_form3.docx))

**Course justification:**

This proposed course will be a one of the core courses that students entering the MS Economics programs will be required to take. It will introduce students to some of the basic approaches in conducting economic research, and include topics like research design and methodology. In addition, the course will allow students to develop data handling skills, including the use of software to manage data. Furthermore, it will introduce students to a variety of software packages that are used for Economic analysis. Consequently, this course is necessary, since it will provide students with preparation and familiarization in a variety of software used for analyses, prior to students writing their thesis.

**Relationship to program assessment objectives:**

Since this course will be one of the core courses of the MS Economics degree, all students entering the MS Economics program will be required to take this course. In doing so, it will develop the empirical skills that students will need for doing any analysis.

This course addresses the following learning objectives in the program: Quantitative and Statistical Proficiency and the Communication Proficiency. The specific student learning outcomes (traits) that this course will address are:

* Students are able to assemble data for conducting an economic analysis
* Students are able to organize data for conducting an economic analysis
* Students are able to manipulate data in conducting an economic analysis
* Students are able to graph appropriate data
* Students are able to use one of the following statistical packages in analyzing data: SAS, SPSS, STATA, Eviews.
* Students are able to do some basic coding in one common programming language: MATLAB, Gauss, R.
* Students are able to present the result of their analysis in a presentation.

**Budgetary impact:**

* **Staffing**:- the course will be staffed by a Economics Department faculty that is Academically Qualified (AQ) and has Grad Faculty status.
* **Academic unit library and service & supply budget:** - no budgetary impact.
* **Campus instructional resource units**:- impact is minimal; students will be required to use one of the statistical packages listed above; currently SPSS is available on campus computers and there are 10 licenses of Stata available on campus computers. Eviews is available in the Economics Department; Matlab is available in Hyland Hall, and at the general access labs in McGraw and Anderson. R is freeware and available online.
* **Laboratory/studio facilities:**- No budgetary impact
* **Classroom space:**- A classroom is anticipated to be required in Hyland Hall to teach the class. The class will meet for 1hour 15 minute session, twice per week.
* **Evaluation of adequacy of current library holdings, recommendations for acquisitions, and impact of the course on the academic unit library allocation budget:** - No impact. The course will be taught using a graduate textbook which students will be required to obtain.
* **Explanation if the course is simply replacing another course, either entirely or in the cycle:**- This is a new course for the MS Economics degree, and does not replace any other courses.

**Course description:** (50 word limit)

This course provides an introduction for students on how to conduct empirical and applied economic research. It focuses on the basic approaches of research design and methodology within the Economics discipline. It introduces students to data handling and management, and to a variety of software packages used in economic research.

**If dual listed, list graduate level requirements for the following:**

1. **Content** (e.g., What are additional presentation/project requirements?)

N/A

2. **Intensity** (e.g., How are the processes and standards of evaluation different for graduates and undergraduates? )   
N/A

3. **Self-Directed** (e.g., How are research expectations differ for graduates and undergraduates?)   
N/A

**Course objectives and tentative course syllabus:**

**ECON 735: Research Methods and Database Management**

**Spring 2015**

**Instructors:**

Parts I:

David Welsch: Office - Hyland Hall 4400; Tel: x4715, Email: [welschd@uww.edu](mailto:welschd@uww.edu); Office Hours: MW 7:30-8:30AM, 12:30-2:00PM, 3:35-4:05; Thursdays from 9:30-12:00 and by appointment

Parts II - III:

Yamin Ahmad: Office: 4402 Hyland Hall, Tel: x5576, Email: [ahmady@uww.edu](mailto:ahmady@uww.edu); Office Hours: Walk in: MW 2:00pm – 5:00pm; Email: F 9am – 11am; and by appointment.

**Course Web Page:** <http://facstaff.uww.edu/ahmady/courses/econ735/>

This is the web page for the course. Here you can find the course schedule, lecture notes, problem sets and more.

**Prerequisites**

ECON 706 – Quantitative Methods in Economics AND

ECON 734 – Econometrics I

**Suggested Texts**

**Parts I and II:**

1. Slaughter, S. J., The Little SAS Book: A Primer, 4th edition, Perfect Paperback, 2008.

# Boslaugh, S., An Intermediate Guide to SPSS Programming: Using Syntax for Data Management, 1st edition, SAGE Publications, Inc 2004



1. Etheridge, D., Research Methods in Applied Economics, 2nd edition, Iowa State University Press, 2004.

**Course Description Objectives and Assessment**

This course is divided into three parts. The first part of the course introduces students to the use of data handling and data management. We highlight some important sources of data, including specific economic databases where students may get economic data. The remainder of this part of the course will be hands on and will show students how to obtain data, assemble data and manipulate data so that it is ready for economic analysis.

Part II of the course will introduce students to the idea of research design and research methodology. This part of the course will focus on methods for defining a research question, conducting a literature review, and identification of a research problem that can be investigated. Moreover, we cover different approaches to research: quantitative vs qualitative research, and overall research design.

Part III of the course will allow students to begin to familiarize themselves with software that is used for conducting economic analyses. In this way, students will be able to utilize these tools in conducting a thesis.

**Grading Policy: We do not give make up assignments.** If you must miss the deadline for an assignment, or the class project, arrangements must be made with us prior to the exam. If no arrangements are made, you will receive a zero for that assignment or project.

**Grade Breakdown:** SPSS Data Management Test 100 points

SAS Data Management Test 100 points

Computational Assignments (Best 2) 50 points (each)

Oral Presentation 100 points

Class Project 350 points

**Grade distribution:** A 93-100% C 71-74.9%

A- 90-92.9% C- 68-70.9%

B+ 87-89.9% D+ 65-67.9%

B 81-86.9% D 61-64.9%

B- 78-80.9 D- 58-60.9%

C+ 75-77.9 F Below 58

**Additional**

**Information:** 1. The University of Wisconsin-Whitewater is dedicated to a safe, supportive and nondiscriminatory learning environment.  It is the responsibility of all undergraduate and graduate students to familiarize themselves with University policies regarding Special Accommodations, Academic Misconduct, Religious Beliefs Accommodation, Discrimination and Absence for University Sponsored Events.  For details please refer to the Undergraduate and Graduate timetables; the “Rights and Responsibilities” section of the Undergraduate Bulletin; the Academic Requirements and Policies and the Facilities and Services sections of the Graduate Bulletin; and the “Student Academic Disciplinary Procedures” (UWS Chapter 14); and the “Student Nonacademic Disciplinary Procedures” (UWS Chapter 17).

2. *As members of the University of Wisconsin – Whitewater College of Business & Economics community, we commit ourselves to act honestly, responsibly, and above all, with honor and integrity in all areas of campus life. We are accountable for all that we say and write. We are responsible for the academic integrity of our work. We pledge that we will not misrepresent our work nor give or receive unauthorized aid. We commit ourselves to behave in a manner that demonstrates concern for the personal dignity, rights and freedoms of all members of the community. We are respectful of college property and the property of others. We will not tolerate a lack of respect for these values.*

\*Originated by: Wheaton College: Honor Code and Statement on Plagiarism.

<http://www.wheatoncollege.edu/StudentLife/honorCode/>

**Tentative Schedule**

## Part I: Data Handling and Management [Weeks 1 – 6]

* Types of Economic Data:
  + Cross Sectional
  + Panel
  + Longitudinal
  + Time Series
* Sources of Economic Data:
  + Microeconomic data
  + Macroeconomic data
* Using SPSS Code for Database Management
  + Importing, Exporting, and saving files
  + Variables – String and Numeric: Creation, Deletion, Formatting & Alter type, Recoding
  + Conditional commands & logic: If, Do if, Select if
  + Merging data sets: Add cases (stack), Add variables
  + Syntax: General management, Notation, How to simultaneously write large batches of code in excel, Insert file
  + Aggregating Data
  + Changing File Structure: Cases to variables, Variables to cases
  + Other useful commands: delete variables command,
* Using SAS Code for Database Management
  + Unique aspects of the SAS programing language
  + Same programing as above

## Part II: Research Design and Methodology [Weeks 7 – 9]

* Classifications of Research
* Process of Research
* Empiricism in Research Methodology
* The Scientific Approach
* Coming up with a Research Question
* Conducting a Literature Review
* Developing Hypotheses
* Hypothesis Testing
* Reporting Results
* Citations and Plagiarism

## Part II: Advanced Computer Languages [Weeks 10 – 15]

* Essentials of Computer Programming
  + How to write code
  + Unstructured vs Structured Programs
* Programming in MATLAB
  + Functions
  + Conditional Statements
  + Loops
  + Optimization Techniques
  + Graphs and Figures
* Numerical Simulations
  + Monte Carlo
  + Bootstrap
  + Bayesian Estimation

**Bibliography:** (Key or essential references only. Normally the bibliography should be no more than one or two pages in length.)

Slaughter, S. J., The Little SAS Book: A Primer, 4th edition, Perfect Paperback, 2008.

# Boslaugh, S., An Intermediate Guide to SPSS Programming: Using Syntax for Data Management, 1st edition, SAGE Publications, Inc 2004

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