# Statistics 5470
## Introduction to SAS Software
## Autumn 2014

**Class Meetings:** Scott Lab (SO), room N0050, Tu Th, 12:40pm – 1:35pm

**Instructor:** James Odei
**Contact:** (614)-292-0293, odei.3@osu.edu
**Office Hours:** Cockins Hall (CH) 435, Tu Th 2:00pm – 3:00pm

**Grader:**

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|---|---|
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| Office Hours | TBA |

**Prerequisites:** Stat 5302 (530) or equivalent, or permission of instructor

**Text:** *The Little SAS Book* (5th edition) by Lora D. Delwiche and Susan J. Slaughter is required.

**Website:** Homework assignments and other relevant material will be posted on http://www.carmen.osu.edu. Please check the website regularly.

**Course Description:** The basic statistical procedures covered will be illustrated using SAS. The intent of the course is to cover some of the SAS statistical methods that graduate students from outside the Statistics Department require for their own research.

**Important Dates:** Sep. 19 is last day to drop without receiving a "W" on the student's record. Sep. 1 is Labor Day Holiday (no class). Nov. 11 is Veteran's Day (no class). Nov. 26 & 27 is Thanksgiving Break (no class). Nov. 28 is Columbus Day Holiday (no class). Final Project is due December 9.

**Grading:** Your grade will be based on homework assignments and a final project. The relative point-worth of these components are as follows:

| | | |
|---|---|---|
| Homeworks | | 70% |
| Final Project | (Due Tuesday, December 9) | 30% |
| | | 100% |

**Homeworks:** There will be many homework assignments throughout the semester that will test your programming ability across a wide variety of topics in the SAS system. Homework problems will be posted on Carmen. **No late homeworks will be accepted**.

**Project:** As a "capstone" experience, students will analyze a provided data set using the methods presented in the course as a final project. Additional information regarding this project will be given in class. It is due Tuesday, December 9, 2014.

**Office Hours:** While questions are welcome and expected during class sessions, all students should feel free to visit office hours for individual assistance with the course material. Questions regarding grades or scores will **only** be answered during office hours. Students unable to attend office hours may easily make an appointment to see the instructor at another time.

**Communication Devices:** Cell phones, PDAs and other communication devices must be either turned off or put on vibrate during class. Please refrain from texting during class as a

courtesy to those sitting around you. All electronic devices other than a calculator must be shut off and put away during examinations.

**Academic Misconduct:** Although you are encouraged to work together, you are expected to produce independent work for homeworks and/or exams. Academic misconduct for any sort will not be tolerated. If students are caught indulging in dishonest activities during the quizzes or the exams, they will be reported immediately, without any exception. Please review OSU's policies at http://studentaffairs.osu.edu/csc/.

**Special Accommodation:** Students with ADA-documented physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the Office of Disability Services (ODS) in Room 150 of the Pomerene Hall, (614) 292-3307. Please contact the ODS as early in the semester as possible. You can also contact the instructor privately to discuss your specific needs.

**NOTE:** The above schedule and procedures in this course are subject to change in the event of extenuating circumstances.

**Course Outline:**

- **Getting Started Using SAS (Chapter 1)**

    - Terminology and Basic Syntax

    - SAS windowing environment

    - Types of data

- **Getting Data into SAS I (Chapter 2, Sections 2.1 – 2.9)**

    - Entering data directly

    - Import wizard for common formats

    - Reading raw data (list and column input)

- **Sorting, Printing, and Summarizing Data (Chapter 4)**

    - Writing reports with PROC REPORT and PROC PRINT

    - Standard and custom formats for data

    - Tabular reports with PROC TABULATE

    - Summarizing data with PROC MEANS and PROC FREQ

- **Working with Data (Chapter 3)**

    - Creating and redefining variables

    - SAS functions

    - Conditional Execution

    - Array processing

    - Transposing datasets with PROC TRANSPOSE

- **Getting Data into SAS II (Chapter 2, Sections 2.10 – 2.22)**

  - Complex raw data
  - Temporary and permanent SAS datasets
  - Reading Excel and Access files
  - Exporting data
  - PROC CONTENTS and PROC DATASETS

- **SAS/GRAPH Basics (Additional Reading)**

  - Bar and Pie charts
  - Scatterplots
  - Working with maps
  - Annotate datasets

- **Modifying and Combining SAS Datasets (Chapter 6)**

  - The SET statement
  - Merging datasets
  - Outputting multiple datasets

- **Working with Character Data and Dates**

  - Character Data Principle
  - Character expressions
  - Character handling functions
  - Date Value concepts
  - Formatting dates and functions for date calculations

- **Basic Statistical Procedures (Chapter 8)**

  - Single variable with PROC UNIVARIATE
  - One and two sample problems
  - Categorical data with PROC FREQ

- **Basics of the Macro Facility (Chapter 7)**

  - Macro variables
  - Macro programs
  - Adding parameters to macro programs

- **Output Delivery System (Chapter 5)**

  - Output delivery system concepts
  - HTML, RTF, and printer output
  - Output objects, restricting output, and output datasets