UCSD Extended Studies
Business, Science and Technology Department

SAS® Programming
BIOL-40190

Course Syllabus

Basic Information:

- Instructor: Justina Flavin Email: justina.flavin@gmail.com
- Quarter: Any
- Units: 3
- Class meeting time and location: Online

Course Description:

The SAS system is widely used in business, government, and academia to manage and analyze data. The course provides the tools necessary to write SAS programs to perform elementary data management, analysis, and reporting while stressing good programming practices especially as it relates to clinical data processing.

Goals and Objectives:

The primary objective of this course is to provide the skills necessary to create and document data sets, manage and reshape data, write simple reports to summarize information, and compute basic statistics on data set variables. A secondary objective is to provide the basis for more advanced work, such as data analysis, advanced programming techniques for data management, and interactive applications development.

Student/Course Requirements:

Students are expected to watch the slide presentations, read the relevant sections in the textbook, run the sample code, and complete all assignments by the specified due dates. Course grades are based upon completion of discussion board topics and programming assignments.

Course Materials:

Required Textbook: Learning SAS by Example: A Programmer's Guide
Ron Cody
ISBN: 978-1-59994-165-3

The textbook provide a comprehensive introduction to the SAS programming language and is recommended by SAS for use in preparing for the Base SAS Certification Exam.

Students interested in purchasing a second book should consider:
The Little SAS Book: A Primer, Fourth Edition
Lora Delwiche and Susan Slaughter
ISBN: 978-1-59994-725-9

Students must also download and install SAS® OnDemand for Academics: Enterprise Guide. There is no additional cost for this product and it provides access to SAS software through the Internet. Registration and download information will be provided by the instructor after enrollment in the course.

Grading System:

- Total points accumulated at the end of the course will be used to calculate the grade.

- Points are earned by completing the assignments as follows:

Assignment	Points	Date Due
Install SAS	0	Week 1
Discussion Board – Student Introduction	1	Week 2
Discussion Board – Topic 1	3	Week 3
Programming Assignment 1	35	Week 4
Discussion Board – Topic 2	3	Week 5
Discussion Board – Topic 3	3	Week 6
Programming Assignment 2	35	Week 7
Programming Assignment 3	20	Week 9

Course Total: 100 points

- Grading Scale

97 to 100	A+
93 to <97	A
90 to <93	A-
87 to <90	B+
83 to <87	B
80 to <83	B-
77 to <80	C+
73 to <77	C
70 to <73	C-
67 to <70	D+
63 to <67	D
60 to <63	D-
<60	F

Course Structure

Weeks 1-3

- Introduction to SAS® (Chapters 1 & 2)
- Getting Started with the DATA STEP (Chapter 3)
- Creating, Viewing, and Inspecting SAS Data Sets (Chapter 4)
- Formats and Labels (Chapter 5)
- Conditional Processing (Chapter 7)
- Iterative Processing (Chapter 8)
- Dates in SAS (Chapter 9)

Week 4

- Programming Assignment 1 Due

Weeks 5-6

- Numeric Functions and Missing Values (Chapter 11)
- Subsetting, Interleaving, and Merging Data Sets (Chapter 10)
- Character Functions (Chapter 12)
- PROC PRINT (Chapter 14)
- PROC MEANS (Chapter 16)
- PROC FREQ (Chapter 17) and PROC UNIVARIATE

Week 7

- Programming Assignment 2 Due

Week 8

- PROC REPORT (Chapter 15)

Week 9

- Programming Assignment 3 Due