

# BIOS 511 Course Syllabus – Fall 2016

Course Title	Introduction to Statistical Computing and Research Data Management
Prerequisites	BIOS 600 or equivalent is helpful
Credit Hours	4
Instructor	<p><b>Matthew A. Psioda, PhD</b>            Research Assistant Professor            Collaborative Studies Coordinating Center            UNC Department of Biostatistics  <b>137 E Franklin St, Suite 400 (Thursday, Friday)</b>            Chapel Hill, NC 27599-8030</p> <p>Alternate Office:  <b>McGavran-Greenberg 4115F (Monday, Tuesday, Wednesday)</b></p>
E-mail	matt_psioda@unc.edu
Phone Number	919-962-3264
Teaching Assistant	Brady Melton <bsmelton@live.unc.edu>
Grader Information	To Be Determined
Lecture	Monday and Wednesday – 1:25-2:15 – Rosenau 0235
Lab	Tuesday – 2:00 – 3:50 – McGavran-Greenberg 2306
Office Hours	The lab period is the best time to ask questions, since you will be engaged with SAS during that time. Questions via email are great too. For longer questions, please feel free to make an appointment to visit me in my office.
Course Summary	BIOS 511 serves as an introduction to statistical computing and research data management, with an emphasis on the use of SAS to manage data.
Core Philosophy	Anyone and everyone can be successful in this course, provided they are willing to spend time writing SAS programs <i>from scratch</i> . SAS is a programming language. Like any other language, it is best learned by reading, writing, and speaking it.
Course Objectives	<ol style="list-style-type: none"> <li>1. To prepare students for the SAS programming they will do in more advanced Biostatistics courses, in their research and GRA assignments, and, later, in their employment.</li> <li>2. To delineate the basic tasks and goals of statistical computing and research data management, and to have students learn by experience how SAS can help to perform those tasks and achieve those goals.</li> <li>3. To develop the ability to write simple to moderately complex SAS programs from scratch <i>with minimal external resources</i>.</li> </ol>
Textbooks	<ul style="list-style-type: none"> <li>• The required course notes will be provided through sakai.unc.edu prior to each course meeting. I will try to stay a week ahead.</li> <li>• It is expected that students will have read the course notes <i>AHEAD</i> of the class meeting.</li> <li>• A quality (optional text)</li> </ul> <p>Delwiche and Slaughter, <i>The Little SAS Book: A Primer</i>, fourth or fifth edition. The fourth is likely cheaper and contains plenty of detail for the course material; but the fifth is the newest, so would work best as a reference for later.</p> <p><a href="https://www.sas.com/en_us/learn/academic-programs/resources/academic-discounts.html">https://www.sas.com/en_us/learn/academic-programs/resources/academic-discounts.html</a></p>

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Grading	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Component</th> <th style="padding: 5px;">% of Grade</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Lab &amp; Quizzes</td> <td style="padding: 5px;">20%</td> </tr> <tr> <td style="padding: 5px;">Homework</td> <td style="padding: 5px;">20%</td> </tr> <tr> <td style="padding: 5px;">Midterm Exam</td> <td style="padding: 5px;">30%</td> </tr> <tr> <td style="padding: 5px;">Final Exam</td> <td style="padding: 5px;">30%</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Quizzes will be administered online (most of the time) and will take approximately 5 minutes to complete. Quizzes will be administered at the beginning of classes (lectures and labs) on randomly chosen, unannounced dates. Quizzes will assess very basic concepts from the notes that were recently discussed in class. <b>Missed quizzes cannot be made up for credit.</b></li>   <li>• Lab assignments are designed to be semi-guided walkthroughs of SAS programming tasks. Students are encouraged to struggle but also ask questions, when necessary. In most cases, at the end of each lab students will submit a completed SAS program, SAS log, and SAS output (e.g., results in a PDF file) to the Sakai site to document completion of the lab. Every attempt will be made to design the lab so that the tasks can be completed with reasonable effort during the lab meeting. <b>Missed labs cannot be made up for credit.</b></li>   <li>• The lowest quiz/lab grade will be dropped before determining a student's final average. <b>Missed quizzes and labs will be treated as a zero unless they are dropped. Missed homework will not be dropped.</b></li>   <li>• <b>Optional Extra Credit:</b> Completing SAS e-Training is optional but completing this 3-part training will add 4% to your final average.             <ul style="list-style-type: none"> <li>○ SAS Programming 1 – Due with Midterm</li> <li>○ SAS Programming 2 – Due with Midterm</li> <li>○ SAS Macro Language 1 – Due with Final Exam</li> <li>○ SAS Macro Language 2 – Due with Final Exam</li> </ul>             Each is worth 1% towards your final average.  <a href="http://software.sites.unc.edu/software/sas-e-learning/">http://software.sites.unc.edu/software/sas-e-learning/</a> </li> </ul> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Final Average</th> <th style="padding: 5px;">Undergraduate Grade</th> <th style="padding: 5px;">Graduate Grade</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">95 or above</td> <td style="padding: 5px;">A</td> <td style="padding: 5px;">H</td> </tr> <tr> <td style="padding: 5px;">85-94</td> <td style="padding: 5px;">B</td> <td style="padding: 5px;">P</td> </tr> <tr> <td style="padding: 5px;">75-84</td> <td style="padding: 5px;">C</td> <td style="padding: 5px;">P</td> </tr> <tr> <td style="padding: 5px;">70-74</td> <td style="padding: 5px;">D</td> <td style="padding: 5px;">L</td> </tr> <tr> <td style="padding: 5px;">Below 70</td> <td style="padding: 5px;">F</td> <td style="padding: 5px;">F</td> </tr> </tbody> </table> <p style="margin-left: 20px;">Undergraduate + and – grades will be decided by the instructor at the end of the semester.</p>	Component	% of Grade	Lab & Quizzes	20%	Homework	20%	Midterm Exam	30%	Final Exam	30%	Final Average	Undergraduate Grade	Graduate Grade	95 or above	A	H	85-94	B	P	75-84	C	P	70-74	D	L	Below 70	F	F
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Honor Code	<p>All academic work in this course, including homework, exams, and projects, is to be your own work, unless otherwise specifically provided. It is your responsibility, if you have any doubt, to confirm whether or not collaboration is permitted. Using materials from previous semesters of this course is a violation of the UNC Honor Code and will result in a course grade of F.</p>																												