

UNIVERSITY OF NEVADA LAS VEGAS
Department of Mathematical Sciences

**Topics in Advanced Statistics
(Statistical Computing)
STA 789, Section 1001
Fall 2016 Syllabus**

Monday, August 29, 2016

• **Lectures:** Mon, Wed 2:30-3:45 in CBC C322.

• **Topics Covered:** This is a special-topics course in statistical computing at the advanced graduate level. Topics to be covered include:

- Optimization, root finding
- EM algorithm
- Random number generation, Monte Carlo simulation
- Markov chain Monte Carlo, Gibbs Sampler, Metropolis Hastings Algorithm
- Bootstrap

• **Learning Outcomes:** After completion of the course, students will be able to solve practical problems in statistics that require modern computer-intensive methods. In addition to learning about the computational techniques and their implementation using R software, students will also become familiar with the underlying theory that justifies their use.

• **Prerequisites:** STA 768 or equivalent.

• **Text:** There is no particular text for the course. Material covered will be taken from various sources.

• **Webpage:** Course-related materials (homeworks, homework solutions, grades, etc.) will be posted on WebCampus (<http://webcampus.nevada.edu>). Please check regularly for updates.

Grading: The final grade will be computed using a weighting scheme as follows:

Homeworks: 35%
Midterm: 30%
Final: 35%

• **Disclaimer:** The syllabus is subject to changes. Any modifications will be announced in class.

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| Disability | The UNLV Disability Resource Center (SSC-A 143, http://drc.unlv.edu/ , 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs. |
| Religious Holidays | Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: http://catalog.unlv.edu/content.php?catoid=6&navoid=531 . |
| Transparency in Learning and Teaching | The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information: https://www.unlv.edu/provost/teachingandlearning https://www.unlv.edu/provost/transparency |
| Incomplete Grades | The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving "I" grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade. |
| Tutoring and Coaching | The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit http://www.unlv.edu/asc or call 702-895- 3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor. |
| Writing Center | One-on- one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: http://writingcenter.unlv.edu/ . |

- Rebelmail** By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. **Emailing within WebCampus is acceptable.**
- Library Resources** Students may consult with a librarian on research needs. For this class, the subject librarian is https://www.library.unlv.edu/contact/librarians_by_subject. UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu/>.
- Final Exams** The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: <http://www.unlv.edu/registrar/calendars>.
- Others** Please set your cellphones to silent mode.
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I hope you will enjoy this course. Have a great semester!