- Instructor:

    Feng-Chang Lin
    NC TraCS Institute, 2nd Floor, Brinkhous-Bullitt Building
    919-966-9431
    flin@bios.unc.edu

- Lectures:

    Tuesday and Thursday, 12:30 – 1:45 pm, Rm 133, Rosenau

    Tuesday, 2 – 3 pm, MC2302, McGavran-Greenberg Hall

- Office hours:

    Wednesday, 3 – 4 pm, Room 218 NC TraCS Institute

- Discussion sessions:

    Monday, 12:15 – 1:30 pm, MC2305, McGavran-Greenberg Hall

- Graders:

    Reuben Adatorwovor (radat223@email.unc.edu)

    TBA

- Required text:

    Statistical Inference (Second Edition), Casella & Berger, Duxbury Press, Pacific Grove CA, 2002

- Optional texts:

    1. Introduction to Mathematical Statistics (Fourth Edition), Hogg & Craig, MacMillan Publ. Co., New York, 1978
    2. Mathematical Statistics, Basic Ideas and Selected Topics, Vol. 1 (2nd Edition), Bickel & Doksum, Pearson, 2006 (for Ph.D. students)
    3. Mathematical Statistics (2nd Edition), Shao, Springer, 2008 (for Ph.D. students)

- Other course materials:

    Courses slides will be posted on Sakai.

- Course prerequisite:

    A grade of L or better in Bios 660, or permission from the instructor

- Plan:

    The plan is to cover roughly chapters 5-12 of Casella & Berger (C&B). Not all of the materials in C&B will be covered. Some of the less essential sections will be skipped due to time constraints.

- Schedule:

    1. Preliminary (transformation)
    2. Chapter 5: Random samples (order statistics, convergence)
    3. Chapter 6: Data reduction (sufficiency, completeness, Basu's Theorem)
    4. Chapter 7: Point estimation (methods, evaluation, CRLB, UMVUE)
    5. Chapter 8: Hypothesis testing (LRT, size, power, UMP)
    6. Chapter 9: Intervals (pivotal quantity, exact versus asymptotic)
    7. Chapter 10: Large sample likelihood-based methods
    8. Chapter 11: Linear/logistic regression (optional)
    9. Chapter 12: Bayesian inferences (optional)

- Grading scheme:

    1. Midterm exam 1 (20%): Transformation, Chapters 5–6
    2. Midterm exam 2 (20%): Chapters 5–7, LRT
    3. Final exam (40%): Chapters 5–10
    4. Homework (20%)

- Homework:

    Homework will be given on Thursday and due in a week. Late homework will not be accepted unless you have the instructor's permission. Solution keys will be posted on Sakai. There will be 9–11 homework assignments.

- Exams:

    Midterms will be given on Thursdays in class. The final exam will be given in the week of exam days (5/3, 12:00 pm). Three hours will be given in the final exam. "Cheat sheet" rules follow Bios 660.

- Doctoral students:

    Doctoral students are supposed to enroll in Bios 673. More advanced homework problems will be given to prepare for Bios 761. Master students who intend to enroll in the Ph.D. program are encouraged to solve these problems.