

STAT 7310 Section A01  
Research Tools for Statistics  
Fall 2014

This course provides instruction in the use of a number of tools required for graduate level research in statistics. Topics include instruction in various software, such as  $\text{\LaTeX}$  and R as well as Library usage, computer, presentation, and communication skills.

**Time** MWF, 2:30 PM – 3:45 PM, unless otherwise noted.  
**Location** 316 Machray Hall, unless otherwise noted.

**Instructor** Dave Gabrielson, et. al.  
323 Machray Hall  
Telephone: 204-474-6688  
Email: Dave.Gabrielson@umanitoba.ca

**Web Page** Department of Statistics: <http://www.stats.umanitoba.ca/>

**Office Hours** Open drop in. (Or by appointment.)

**Evaluation** This course is evaluated on a Pass/Fail basis. You must complete and pass *all* given assignments and quizzes. For purposes of this course, a “pass” is equivalent to a grade of “B” or better.

**Deadlines & Extensions** All deadlines for this course are *hard deadlines*. Extensions for assignments *will not* be given. ***Failure to submit any assignment by its due date will result in failure for this course.*** Unless a specific time is given, assignments are due before 4:30 PM on their due date. An instructor *may* request additional work be done for an assignment, in which case they will give an additional deadline for that work.

**Submission by email** An instructor *may* ask for submission of assignments by email. After an instructor receives a submission by email, a confirmation of receipt will be sent back to the student. Until the student receives the confirmation, they should *not* assume the assignment has been submitted. The *student* has the responsibility to ensure timely submission of assignments.

**Academic Dishonesty** It is important that you understand what constitutes academic dishonesty and that you are familiar with the very serious consequences. Links to resources that describe academic dishonesty (including plagiarism, cheating, inappropriate collaboration and examination impersonation) can be found through the Faculty of Science home page at [umanitoba.ca/science](http://umanitoba.ca/science). Typical penalties imposed within the Faculty of Science for academic dishonesty are also described. See also the sections in THE UNIVERSITY OF MANITOBA UNDERGRADUATE CALENDAR 2014–2015 dealing with academic integrity, including plagiarism, cheating and (im)personation at examinations.

### Preliminary Schedule

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| Week | Topic                                  |
|------|--|
| 0    | No class                               |
| 1    | Command line and coding basics         |
| 2    | Programming case studies               |
| 3    | Basic $\LaTeX$                         |
| 4    | $\LaTeX$ — math                        |
| 5    | $\LaTeX$ — references & bibliographies |
| 6    | Library skills                         |
| 7    | Beamer and presentations               |
| 8    | CLI redux: networked computers         |
| 9    | Introduction to R                      |
| 10   | Introduction to R                      |
| 11   | R redux                                |
| 12   | R redux                                |
| 13   | TBA                                    |

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### Online Resources

Command line <http://cli.learncodethehardway.org/book/>  
Julia <http://julialang.org>  
<http://forio.com/labs/julia-studio/tutorials/>  
 $\LaTeX$  <http://en.wikibooks.org/wiki/LaTeX>  
<http://www.giss.nasa.gov/tools/latex/>  
R <http://www.r-project.org>