

STAT 5001 Introduction to statistics for Bioinformatics
Semester 1, 2009

General information:

Lecturer: Dr Jean Yang; Carlaw 824

Lecture time: Tuesday afternoon 2-5pm in Carlaw Room 729

Consultation time: By e-mail appointment & Monday 10:30 – 11am.

Websites:

- Course home page: <http://www.maths.usyd.edu.au/u/PG/STAT5001>
- R home page: <http://www.r-project.org/>
- For lab reports:
<http://www.maths.usyd.edu.au/u/michaels/process.html>
<http://www.maths.usyd.edu.au/u/michaels/processAtHome.html>

Course outline:

Weeks	Dates	Topics
1	Mar 3	Descriptive statistics + Introduction to R
2	Mar 10	Exploratory data analysis + Introduction to Sweave
3	Mar 17	Population models and simulation + Introduction to Microarray
4	Mar 24	Experimental design + correlation and regression
5	Mar 31	Tests of significance
6	April 7	Confidence intervals + Central Limit Theorem
	April 14	Easter Break
7	April 22	Microarray data analysis I - Non-linear smoother
8	April 28	Analysis of variance
9	May 5	Linear models and multiple regressions
10	May 12	Categorical data
11	May 19	Microarray data analysis II - DE analysis and clustering
12	May 26	Revision
13	June 2	Final Practical Exam

Assessment:

50% Computer exam (open book).

50% Average of the best 7 weekly lab reports between week 4 and week 11.

Weekly lab report is due at 12 noon every following Monday morning.