IC150 Computation for Engineers
Course Outline, Feb-Jun 2014

Week	Topics	References
1	Computers: history, structure	[RD] Ch.1 [VR] Ch.1-2
2	Memory, Functions	[AB] Ch.1 [VR] Ch.4-5,13,19 [RD] Ch.2
3	Conditionals, repetition	[AB] Ch.2 [RD] Ch.3,4 [VR] Ch.6,9
4	Modular programming, top-down design with functions	[VR] Ch.13
5-6	Arrays, sorting, searching	[AB] Ch.3.1 [RD] Ch.5
7	Strings	[AB] Ch.3.2 [RD] Ch.6
8-9	I/O	[AB] Ch.5 [VR] Ch.21
10	Dynamic data structures;	[AB] Ch.6 [RD] Ch.7 [VR] Ch.17
11-12	Numerical methods;	[JI] Ch. 2.1-2.5, 4.1-4.2
	Scilab; spreadsheets	[AB] Ch.9-11 [SL]
13	Abstract data types	[AB] Ch.7-8
14	Review	

Staff

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Assignments

There will be a few tutorials. Lab assignments will be done in IC150P in conjunction with this course.

Minimum Attendance to pass the course:

Criterion	Attendance
> average in both quizzes	>50%
< average in only one quiz	>75%
< average in both quizzes	>85%

Evaluation: 2 quizzes (50%), final exam (50%), attendance (5%)
Evaluation for IC150P will be done separately.

References

[AB] A.R. Bradley, "Programming for Engineers", Springer, 2011

[RD] R. G. Dromey, "How to Solve It By Computer", Pearson, 1982

[KR] Kernighan and Ritchie, "The C Programming Language", 2nd ed., Prentice-Hall, 1988

[VR] V. Rajaraman, "Computer Programming in C", Prentice-Hall, 2004

[KP] Kernighan and Pike, "The Unix Programming Environment", Prentice-Hall, 1984

[JI] M.K. Jain, S.R.K. Iyengar & R.K. Jain, "Numerical Methods for Scientific and Engineering Computation", 5th ed., Wiley Eastern.

[SL] Scilab documentation: http://wiki.scilab.org/ Scilab download: http://www.scilab.org/index.php/products/scilab/download