Course Programme

General data

Teacher: Rosa M. Fernández (rfernandez@tsc.upc.edu)

Site: http://atenea.upc.edu/moodle/course/view.php?id=4633

Term: Spring 2013 (from February 19th to May 31st)

ECTS: 3

Schedule

Part I. MATLAB (common for everybody)

Weeks 1-2	Unit 1. Fundamentals
Weeks 3-4	Unit 2. Graphics
Weeks 5-6	Unit 3. M files programming
Weeks 7-8	Unit 4. Graphics User Interface
Weeks 9-10	Unit 5. Simulink

Part II. Application (final work about a particular subject of your interest)

Weeks 11-12	First part of the Final Work (theory + core computations)
Weeks 13-14	Second part of the Final Work (update 1st part, develop GUI and/or API)

The best final works may apply for submission to the *Matlab Digest Academic Edition*.

Forum

Each unit have a space (the forum) for questions and answers. The students must use the forum for posting comments and asking questions related to the theoretical notes and exercises. Since this is a virtual course, the forum activity is very important. In particular, it is intended that the students answer the queries posed by their own course companions. This will make the course more dynamic and interesting and will allow the presentation of different solutions to the same problems. Moreover, the quantity and quality of the students' participation will be taken into account in the course final grade.

Final grade

Final grade is computed according the following weights:

Part I (exercises units 1 to 5):	30% of final grade
Part II (final work):	70% of final grade

If the exercises are not presented before the deadline, the grade for this activity will be zero. If the final work is not presented, the final grade will be NP. The forum activity will be positively taken into account, even if it is to help the companions, to make comments or to expose alternatives for the proposed exercises.

Calendar

FEBRUARY 2013

1	A	18	19 **Unit 1**	20	21	22	23	24
2	B	25	26	27	28	1	2	3 **Deadline E1**

MARCH 2013

3	A	4 **Unit 2**	5	6	7	8	9	10
4	B	11	12	13	14	15	16	17 **Deadline E2**
5	A	18 **Unit 3**	19	20	21	22	23	24
		25	26	27	28	29	30	31

APRIL 2013

6	B	1	2	3	4	5	6	7 **Deadline E3**
7	A	8 **Unit 4**	9	10	11	12	13	14
8	B	15	16	17	18	19	20	21 **Deadline E4**
9	A	22 **Unit 5**	23	24	25	26	27	28

MAY 2013

10	B	29	30	1	2	3	4	5 **Deadline E5**
11	A	6 **Final Work**	7	8	9	10	11	12
12	B	13	14	15	16	17	18	19
13	A	20	21	22	23	24	25	26
14	B	27	28	29	30	31 **Deadline** **Final Work**	1	2

Bibliography

BRANDIMARTE, P., *Numerical methods in finance and economics: a MATLAB-based introduction*, 2nd ed, John Wiley & Sons, 2006

GILAT, A., *MATLAB: An Introduction with Applications*, 3rd ed. John Wiley, 2008.

HANSELMAN, LITTLEFIELD, *Mastering MATLAB 7*, Prentice Hall

KLEE, H., *Simulation of dynamic systems with MATLAB and Simulink*, CRC Press, 2007

MAGRAB, E.B. *et al*., *An Engineer's guide to MATLAB : with applications from mechanical, aerospace, electrical, and civil engineering*, 2nd ed, Prentice Hall, 2005.

MARCHAND, P., HOLLAND, O. T., *Graphics and GUIs with MATLAB*, 3rd ed. CRC Press, 2003.

POULARIKAS, A.D., RAMADAN, Z.M., *Adaptive filtering with MATLAB*, CRC Taylor & Francis, 2006.