Dynamic Optimization Refresher

Course title - Intitulé du cours	Dynamic Optimization Refresher
Level / Semester - Niveau /semestre	M2 / S1
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	SILVA ALVAREZ FRANCISCO JOSE
Other teacher(s) - Autre(s) enseignant(s)	
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Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	15
TA Hours - Volume horaire TD	
TP Hours - Volume horaire TP	
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

Teaching staff contacts - Coordonnées de l'équipe pédagogique :

- email: francisco.silva@unilim.fr

- Prefferred means of iteractions: email.

Course's Objectives - Objectifs du cours :

Newly acquired knowledge once the course completed:

- To perform a sensitivity analysis of some parametrized optimization problems (envelope theorem).

- To treat some simple models of time-dependent optimization problems, in finite and in infinite horizons, by using dynamic programming techniques.

- To apply dynamic programming techniques to some classical growth models under certainty.

Prerequisites - Pré requis :

- Multivariate calculus.

- Optimality conditions for optimization problems.

These contents are reviewed in the course "Static Optimization refresher".

Practical information about the sessions - Modalités pratiques de gestion du cours :

This year the course will be online. An active participation of the students is expected. More precisely, several exercises will be proposed and some of them will be solved during the lectures.

Grading system - Modalités d'évaluation :

- No grading scheme applies to this course.

Bibliography/references - Bibliographie/références :

- A.K. Dixit, Optimization in Economic Theory. Oxford University Press, 1990.

- M. Intriligator, Mathematic Optimization and Economic Theory, SIAM, 2002.

- N. Stokey, R. Lucas, Recursive Methods In Economic Dynamics. Harvard University Press, 1989.

Distance learning – Enseignement à distance :

- Interactive virtual classrooms.

- Remote (online) tutorials (classes).

- Chatrooms/Forum.