

Static Optimization refresher

Course title - Intitulé du cours	Static Optimization refresher
Level / Semester - Niveau /semestre	M1 / 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

-preferred means of interaction: by email.

Course's Objectives - Objectifs du cours :

Newly acquired knowledge once the course completed:

- To be able formulate a decision problem as an optimization problem with or without constraints.
- To assess if simple optimization problems admit solutions.
- To be able to write and solve optimality systems associated to local or global solutions.

Prerequisites - Pré requis :

- Multivariate Calculus.
- Linear algebra.

Most of the material from Multivariate Calculus needed in this course will be reviewed during the first two sessions. I will also summarize the main properties of (semi)definite matrices, which play an important role in optimization theory.

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.

-A. Ruszczynski, Nonlinear Optimization. Princeton University Press, 2006.

-J. Yong. Optimization theory: a concise introduction. WSPC, 2018.

Distance learning – Enseignement à distance :

- Interactive virtual classrooms.

- Remote (online) tutorials (classes).

- Chatrooms/Forum.