

- Faculté des sciences économiques
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## Efficiency Measurement and Analysis (5ER2031)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en sciences économiques, orientation politique économique</b>	<b>Cours: 2 ph</b>	<b>écrit: 2 h</b>	<b>3</b>

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

### Période d'enseignement:

- Semestre Printemps

### Equipe enseignante:

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### Objectifs:

The aim of this course is to provide students with the necessary analytical tools and modeling skills used in benchmarking various decision making units. The focus is on the assessment of the productive performance and the empirical methodologies derived from production economics. These methods include Stochastic Frontier models and Data Envelopment Analysis. The lectures and assignments aim at training students for a sound and scientific usage of benchmarking techniques. Benchmarking applications in public policy and regulation as well as business management will be motivated through a selection of examples from the literature.

### Contenu:

- Basic elements of production economics and various notions of productive efficiency
- Economic perspectives and the relevance of benchmarking
- Index numbers and simple indicators
- Data envelopment analysis
- Econometric estimation of production technologies
- Stochastic frontier model and its variations
- Heterogeneity, robustness and error in parametric and non-parametric approaches
- Semi-parametric models and other extensions

### Forme de l'évaluation:

Continuous evaluation based on a mid-term 90-minute written exam during the semester (50%) and a final 90-minute written exam during the last lecture of the semester (50%). Attendance and participation in class discussions are rewarded by a bonus of up to 20% of the final grade. Students who miss more than 4 hours lecture do not qualify for the bonus.

Retake: 2-hour written exam during the exam session (100%) without bonus.

All exams are closed book: No documents, objects, or connected objects are allowed.

In case of violation of these rules, the students are in a situation of fraud and the unauthorized items will be removed. The exam could be deemed as failed.

### Documentation:

- An Introduction to Efficiency and Productivity Analysis. Coelli, T. J., Rao, D.S.P., Battese, G. E. and O'Donnell, Ch. J. 2005. 2nd edition, Springer.
- The Measurement of Productive Efficiency and Productivity Growth. Fried, H. O., Lovell, C. A. Knox and Schmidt, S. S. (editors). 2008. Oxford University Press, Oxford.
- Data Envelopment Analysis: Modeling Operational Processes and Measuring Productivity, Cook, W. & Zhu, J., 2008.
- The Economics of Production, Beattie, B.R., Taylor, C.R. & Myles, W.J., 2009. Krieger.
- Journal articles and extracts made available during the term.

### Forme de l'enseignement:

Lecture: 2 hours per week  
Office hours: on request by e-mail