

SYLLABUS

Name of the course:	Modelling development and the ecological bifurcation			
Teacher:	Guilherme Magacho (GM), Gabriel Santos Carneiro (GS), Luca Tausch (LT), Matthieu Trichet (MT)			
University / organisation:	Agence Française de Développement (AFD)			
Language of teaching:	English			
ECTS:	4 ECTS			
Semester (S1, S2, S3 or S4):	<input type="checkbox"/> S1	<input type="checkbox"/> S2	<input checked="" type="checkbox"/> S3	<input type="checkbox"/> S4
Teaching method(s):	<input checked="" type="checkbox"/> Lecture courses		<input type="checkbox"/> Flipped classroom	
	Other:			
Type(s) of evaluation:	<input type="checkbox"/> Sitting exam		<input checked="" type="checkbox"/> Written report	
	<input type="checkbox"/> Oral defence		<input checked="" type="checkbox"/> Group project	
	Other / comments:	<p>Replicate the ESTEEM Model on a national level: The students are expected to build groups of 3 and choose a group of 3 countries for which they aim to run the analysis. Once the countries are chosen, we will provide the group with the necessary input-output tables (national IO tables retrieved from the MRIO database Gloria) to conduct their analysis. On an empirical level, the students are expected to replicate and capture the socio-economic, external, and fiscal constraints faced by the chosen group of countries. They are expected to replicate the analysis in Magacho et al. (2023) (except for the cluster analysis) – creativity and possible extensions will be taken into consideration for the final grade.</p> <p>In addition to the empirical exercise, the students are expected to provide a report of max. 3000 words. The report should contextualize the countries, provide a short overview of the methodology (in words, not equations), a summary of the results, as well as a comparison of the countries.</p>		
Expected deadline(s) for the evaluation(s)	Mid-February			
Expected date of final results:	End of April			
Summary of the content:	<ul style="list-style-type: none"> • 22/10 : Ecological Transition in Developing Countries (Luca) • 5/11 : Input-Output analysis and theoretical backgrounds and the structure of IO tables (Gabriel) • 12/11 : IO models, linkages and multipliers (Gabriel) • 19/11 : Satellite accounts and MRIO (Matthieu) 			

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	<ul style="list-style-type: none"> • 26/11 : IO analysis using R (Luca) • 3/11 : ESTEEM (Luca) • 10/12 : Nature Related Risks (Matthieu) • 17/12 : Outlook : dynamic Input-Output models (Guilherme)
<p>Indicative list of lectures and short bibliography:</p>	<ul style="list-style-type: none"> ○ Perez, C. (2010). Technological Revolutions and Techno-Economic Paradigms. <i>Cambridge Journal of Economics</i>, 34(1). ○ Porcile, G., Alatorre, J.E., Cherkasky, M., Gramkow, C. & Romero, J. (2023). New directions in Latin American Structuralism: a three-gap model of sustainable development, <i>European Journal of Economics and Economic Policies: Intervention</i>, Vol. 20 No. 2, pp. 266–281. ○ Mercure, J. F., Knobloch, F., Pollitt, H., Paroussos, L., Scricciu, S. S., & Lewney, R. (2019). Modelling innovation and the macroeconomics of low-carbon transitions: theory, perspectives and practical use. <i>Climate Policy</i>, 19(8), 1019-1037. ○ Guilhoto, J. J. (2021). Input-Output Models Applied to Environmental Analysis. In: <i>Oxford Research Encyclopedia of Environmental Science</i>. ○ Miller, R. E., & Blair, P. D. (2009). <i>Input-output analysis: foundations and extensions</i>. Cambridge university press. ○ Magacho, G., Espagne, E., Godin, A., Mantes, A., & Yilmaz, D. (2023). Macroeconomic exposure of developing economies to low-carbon transition. <i>World Development</i>, 167, 106231. ○ Veronesi, F., Moran, D., Stadler, K., Kanemoto, K., & Wood, R. (2017). Resource footprints and their ecosystem consequences. <i>Scientific Reports</i>, 7(1), 1-12. ○ Leclère, D., Obersteiner, M., Barrett, M., Butchart, S. H., Chaudhary, A., De Palma, A., ... & Young, L. (2020). Bending the curve of terrestrial biodiversity needs an integrated strategy. <i>Nature</i>, 585(7826), 551-556. ○ Svartzman R, Espagne E, Gauthey J, Hadji-Lazaro P, Salin M, et al. (2021) A 'Silent Spring' for the Financial System? Exploring Biodiversity Related Financial Risks in France. Paris: Banque de France ○ Lenzen, M., Moran, D., Kanemoto, K., Foran, B., Lobefaro, L., & Geschke, A. (2012). International trade drives biodiversity threats in developing nations. <i>Nature</i>, 486(7401), 109-112.