

SYLLABUS

Name of the course:	Modeling development and the ecological transition			
Teacher:	Antoine Godin, Etienne Espagne, Devrim Yilmaz, Guilherme Magacho and Achilleas Mantes			
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 evaluation¹:	<input type="checkbox"/> Sitting exam		<input checked="" type="checkbox"/> Written report	
	<input type="checkbox"/> Oral defence		<input type="checkbox"/> Group project	
	Other / comments: _____			
Expected deadline(s) for the evaluation(s)	End of February			
Expected date of final results:	End of March			
Summary of the content:				
Indicative list of lectures and short bibliography:	<p>1. Finance-economic interactions, the importance of balance sheets and introduction to SFC modelling.</p> <ul style="list-style-type: none"> ○ McLeay, M., A. Radia, and R. Thomas. 2014. "Money Creation in the Modern Economy." <i>Bank of England Quarterly Bulletin</i> Q1: 14. ○ Caverzasi, Eugenio, and Antoine Godin. "Post-Keynesian stock-flow-consistent modelling: a survey." <i>Cambridge Journal of Economics</i> 39, no. 1 (2014): 157-187. ○ Nikiforos, Michalis and Gennaro Zezza, Stock-Flow Consistent Macroeconomic Models: A Survey. <i>Journal of Economic Surveys</i>, (2017). ○ Godley, Wynne, and Marc Lavoie. <i>Monetary economics: an integrated approach to credit, money, income, production and wealth</i>. Springer, (2006). <p>2. Goodwin-based models 1: Goodwin and Goodwin-Keen</p>			

¹ If the evaluation of the course includes various assessment methods, tick all the relevant boxes. You can add explanations in the "Other/comments" box.

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- Goodwin, Richard, 1967. 'A growth cycle', in: Carl Feinstein, editor, *Socialism, capitalism, and economic growth*. Cambridge, UK: Cambridge University Press.
 - Keen, Steve. "Finance and economic breakdown: modeling Minsky's "financial instability hypothesis"." *Journal of Post Keynesian Economics* 17.4 (1995): 607-635.
 - Grasselli, Matheus R., and B. Costa Lima. "An analysis of the Keen model for credit expansion, asset price bubbles and financial fragility." *Mathematics and Financial Economics* 6.3 (2012): 191-210.
3. Integrating climate dynamics: IAMs and damage functions
- Hsiang, S., Kopp, R., Jina, A., Rising, J., Delgado, M., Mohan, S., ... & Larsen, K. (2017). Estimating economic damage from climate change in the United States. *Science*, 356(6345), 1362-1369.
 - Carleton, T. A., & Hsiang, S. M. (2016). Social and economic impacts of climate. *Science*, 353(6304), aad9837.
 - Woillez, M. N., Giraud, G., & Godin, A. (2019). Economic impacts of a glacial period: a thought experiment. AFD working paper.
 - Moyer, E. J., Woolley, M. D., Matteson, N. J., Glotter, M. J., & Weisbach, D. A. (2014). Climate impacts on economic growth as drivers of uncertainty in the social cost of carbon. *The Journal of Legal Studies*, 43(2), 401-425.
 - Weitzman, M. L. (2012). GHG targets as insurance against catastrophic climate damages. *Journal of Public Economic Theory*, 14(2), 221-244.
4. Supply- and Demand-driven models with damage functions.
- Emmanuel Bovari, Gaël Giraud, Florent Mc Isaac, "Coping With Collapse: A Stock-Flow Consistent Monetary Macrodynamics of Global Warming", *Ecological Economics*, Volume 147, 2018, Pages 383-398.
5. The Ecological Transition as the emergence of a Technico-Economic Paradigm.
- Perez, C. (2010). Technological Revolutions and Techno-Economic Paradigms. *Cambridge Journal of Economics*, 34(1).
 - Caiani, A., Godin, A. & Lucarelli, S. (2014) "Innovation and finance: a stock flow consistent analysis of great surges of development", *Journal of Evolutionary Economics* (2014) 24(2).
 - Campiglio, E., Godin, A. & Kemp-Benedict, E. (2017) "Networks of stranded assets: A case for a balance sheet approach", *AFD Research Papers*, No. 2017-54, October.
 - Bastidas, Daniel, and Florent Mc Isaac. "Reaching Brazil's National Determined Contributions: An Assessment of the Key Transitions in Final Demand and Employment." *Energy Policy* (2019).
6. Modelling Structural Change and Climate

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- Romero, J. & Gramkow, C. (2020) “Economic Complexity and Greenhouse Gas Emission Intensity”, *Cambridge Centre for Economic and Public Policy*, CCEPP WP03-20, May.
- Alterburg, T. & Rodrik, D. (2017) “Green industrial policy: Accelerating structural change towards wealthy green economies”, in: Altenburg, T., & Assmann, C. (Eds.). (2017). *Green Industrial Policy. Concept, Policies, Country Experiences*. Geneva, Bonn: UN Environment.
- Berg, M., Hartley, B. & Richters, O. (2015), “A stock-flow consistent input–output model with applications to energy price shocks, interest rates, and heat emissions”, *New Journal of Physics*, 17 015011.
- Magacho, G. & McCombie, J. (2020), “Structural change and cumulative causation: A Kaldorian approach”, *Metroeconomica*, 71, 3.

7. Modelling Small Open Developing Economies.

- Yilmaz S.D. & Godin A., “Modelling Small Open Developing Economies in a Financialized World: A Stock-Flow Consistent Prototype Growth Model”. AFD Working Papers, 2020 Feb 20.

8. Transboundary Risks of Climate Change in a North-South Model

- Cai, Y., Brock, W., Xepapadeas, A., & Judd, K. (2018). Climate policy under cooperation and competition between regions with spatial heat transport (No. w24473). National Bureau of Economic Research.
- Van der Ploeg, F., & de Zeeuw, A. (2016). Non-cooperative and cooperative responses to climate catastrophes in the global economy: A north–south perspective. *Environmental and Resource Economics*, 65(3), 519-540.
- Dutt, A. K. (2002). Thirlwall’s law and uneven development. *Journal of Post Keynesian Economics*, 24(3), 367-390.