

SYLLABUS

Name of the course:	Advanced Macro-econometrics & Time Series			
Teacher:	Camille Souffron			
University / organisation:	Ecole Normale Supérieure (ENS) & Paris School of Economics (PSE)			
Language of teaching:	English			
ECTS:	6			
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 checked="" type="checkbox"/> Sitting exam		<input checked="" type="checkbox"/> Written report	
	<input type="checkbox"/> Oral defence		<input checked="" type="checkbox"/> Group project	
	Other / An exam (50%), a group replication (50%), and bonus comments: problem sets (+2pts)			
Expected deadline(s) for the evaluation(s)	The replication and the final will be separated from the validation of the other EPOG courses to avoid overloading students at the end of the semester.			
Expected date of final results:	When necessary			
Summary of the content:	<p><i>NB: this course may seem big and difficult, but it will drastically benefit your master's thesis, your applications to PhD, and it will prepare you at the highest level for institutional careers (e.g. in central banks) and for an efficient start of your PhD thesis. The Maths and Code bootcamp will prepare you for this course.</i></p> <p>Welcome to the Advanced Macro-econometrics & Time Series course, a comprehensive (I'll try) program that explores the tools and techniques used in modern empirical research, from structural modellers to forecasters. This course bridges the gap between theoretical macroeconomics (both mainstream and heterodox) and empirical data with their practical analysis.</p> <p>This course offers 1) descriptive tools to identify patterns and relationships in macroeconomic data using advanced descriptive techniques like PCA, MCA (à la Bourdieu) and Canonical Analysis, but also bibliometrics and meta-analysis tools. It will provide 2) robust tools for time series analysis to analyse business cycles and financial cycles, and 3) state-of-the-art macro-econometric models (structural VAR, cointegration, Local Projections, regime-switching) to allow empirical identification and uncover causal relationships like the long-term non-neutrality of money, regime changes such as the flattening of the Phillips Curve, and the non-linearity and asymmetry of fiscal multipliers during recessions and expansions. The course also emphasizes 4) applications to policy making and evaluation, focusing</p>			

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	<p>monetary and fiscal policy effects, inequalities. It will also allow 5) to empirically estimate and test macroeconomic models (SFC, Goodwin, IAM...). Finally, 6) a critical reflection will be shared on the philosophy and epistemology of empirical research in social sciences and econometrics, based on the Vienna Circle.</p>
<p>Indicative list of lectures:</p>	<ol style="list-style-type: none"> 1. Descriptive Economics, Stylized Facts and Principal Component Analysis 2. Stochastic Processes & Time Series Models 3. Vector Autoregression (VAR), IRF & Local Projections 4. Structural VAR, Instruments & Identification of Policy Impacts 5. Non-linear Dynamics & Regime-Switching Models 6. State-Space Models, Dynamic Factor Models & Cointegration Analysis (VECM) 7. Estimation of Structural Models (National accounts, SAM-SFC, GMM, SMM, SUR, Bayesian approach, Backtesting) 8. Statistical Filters & Spectral Analysis of the Business & Financial Cycles 9. Methods for Meta-Analysis, Publication Bias & Bibliometrics 10. Ontology & Epistemology of Empirics & Econometrics
<p>Short bibliography:</p>	<p>Articles :</p> <p>Beaudry, P., Galizia, D., & Portier, F. (2016). Is the Macroeconomy Locally Unstable and Why Should We Care? In <i>NBER Macroeconomics Annual</i> (Vol. 31, Issue 1, pp. 479–530). University of Chicago Press. https://doi.org/10.1086/690244</p> <p>Beaudry, P., Galizia, D., & Portier, F. (2020). Putting the Cycle Back into Business Cycle Analysis. <i>American Economic Review</i>, 110(1), 1-47. https://doi.org/10.1257/aer.20190789</p> <p>Borio, C. (2021). Navigating by r^*: safe or hazardous? BIS Working Papers No 982. https://www.bis.org/publ/work982.htm</p> <p>Buda, G, Carvalho, V. M., Corsetti, G Duarte, J. B., Hansen, S., Moura, A. S., Ortiz, A., Rodrigo, T., Rodríguez Mora, J. V., Alves da Silva, G., (2025). The Short Lags of Monetary Policy, Cambridge Working Papers in Economics 2509, Faculty of Economics, University of Cambridge. https://cepr.org/publications/dp18022</p> <p>Fazzari, S. M., Morley, J., & Panovska, I. (2014). State-dependent effects of fiscal policy. <i>Studies In Nonlinear Dynamics And Econometrics</i>, 19(3), 285-315. https://doi.org/10.1515/snde-2014-0022</p> <p>Jordà, Ò., Singh, S., & Taylor, A. (2020). The Long-Run Effects of Monetary Policy. NBER Working Paper. https://doi.org/10.3386/w26666</p> <p>Jordà, Ò., Schularick, M., & Taylor, A. M. (2017). Macrofinancial History and the New Business Cycle Facts. <i>NBER Macroeconomics Annual</i>, 31(1), 213-263. https://doi.org/10.1086/690241</p>



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Mclsaac, F. (2021). Testing Goodwin with a stochastic differential approach—The United States (1948–2019). In *Metroeconomica* (Vol. 72, Issue 4, pp. 696–730). Wiley. <https://doi.org/10.1111/meca.12344>

Textbook (as a helper just in case, but not necessary):

Hamilton, J. D. (1994). *Time Series Analysis*, Princeton University Press.