



College of Europe
Collège d'Europe



Natolin

ECTS CARD

STUDY PROGRAMME(S) / STUDY TRACK(S)

Master of Arts in European Interdisciplinary Studies
Master of Arts in Transatlantic Affairs (Study Track: European Interdisciplinary Studies)

YEAR

2026-2027

COURSE TITLE

Energy in a Globalised World: Economics, Politics and Policies

SEMESTER

1

PROFESSOR(S)

HENDERSON James

ACADEMIC ASSISTANT(S)

HAMMAMI Amel

COURSE TYPE

Core Course

MAJOR(S)

Not applicable

ECTS CREDITS

4

TEACHING HOURS

20

INDIVIDUAL & GROUP STUDY TIME

80

TUTORIAL(S)

COEFFICIENT

1

LANGUAGE(S)

EN

COURSE OBJECTIVES

The course will provide a broad understanding of the global energy economy and the challenges of the energy transition. It will also offer an understanding of the geopolitical implications for different states and governments as they adjust their long-term strategies as producers or consumers of hydrocarbons, resulting in changes in questions over energy security. Students will get a sense of how companies are also adapting their strategies, with an opportunity to get proactively involved in a discussion over various case studies. They will also gain a more detailed understanding of how to create and use a discounted cash flow model to make strategic investment decisions. Finally, they will gain the ability to discuss the major assumptions and assess various future scenarios for strategic planning purposes, in order to understand how company managements make key decisions.

LEARNING OUTCOMES

At the end of this course, the students will be able to:

- 1) Understand the key factors driving the global energy economy (A5, MATA1.5);
- 2) Analyse key strategy drivers for countries and companies involved in the energy economy (A5, MATA1.5);
- 3) Understand the impact of the energy transition (A5, MATA1.5);
- 4) Create a cashflow model and understand its workings (B6, MATA2.4);
- 5) Use the results of a cashflow model to make investment decisions (B6, MATA2.4);
- 6) Understand how companies make strategic decisions and how they interact with governments to resolve key issues (A5);
- 7) Understand political drivers in the energy sector and how governments respond to external and internal pressures (A5).

RECOMMENDED PREPARATION

Energy Institute Statistical Review of World Energy and associated speeches, available at <https://www.energyinst.org/statistical-review>

BP Energy Outlook, available at <https://www.bp.com/en/global/corporate/energy-economics/energy-outlook.html>

ExxonMobil Energy Outlook, available at <https://corporate.exxonmobil.com/what-we-do/energy-supply/outlook-for-energy>

Overview of IEA's World Energy Outlook, available at <https://www.iea.org/topics/world-energy-outlook>

Global Energy: Issues, Potentials and Policy Implications, edited by Ekins, Bradshaw and Watson, Oxford University Press, 2015.

Handbook of the International Political Economy of Energy and Natural Resources, edited by Goldthau, Keating and Kuzemko, Edward Elgar, 2018.

Geopolitics of the Energy Transition: Energy security, IEA and IRENA, April 2024 at <https://www.irena.org/Publications/2024/Apr/Geopolitics-of-the-energy-transition-Energy-security>

Oil and gas industry in net zero transitions, IEA, November 2023, download from <https://www.iea.org/news/oil-and-gas-industry-faces-moment-of-truth-and-opportunity-to-adapt-as-clean-energy-transitions-advance>

Key Challenges Faced by Fossil Fuel Exporters during the Energy Transition, IMF, March 2024 at <https://www.imf.org/en/Publications/staff-climate-notes/Issues/2024/03/26/Key-Challenges-Faced-by-Fossil-Fuel-Exporters-during-the-Energy-Transition-546066>

Basic cash flow modelling techniques. See <https://corporatefinanceinstitute.com/resources/knowledge/valuation/dcf-formula-guide/> and <https://trainingnyc.com/learn/financial-modeling/dcf-modeling> as examples

Understand basic use of an Excel spreadsheet. See <https://www.youtube.com/watch?v=rwbho0CgEAE> for a good beginners tutorial

TEACHING METHOD(S)

All lectures will be on-site lectures using slides and an Excel spreadsheet to discuss and create a DCF model (knowledge of Excel is important)!

ASSESSMENT METHOD(S)

Assessment is based on the following elements (**tbc**):

- Final exam (100% of the final mark): 3-hour, written, digital, closed-book, on-site exam. The examination has two parts, each worth 50% of the final mark. **Part I: Essay Questions (50%)**. This part covers the topics addressed in Lectures 1 to 5. Students will answer one essay question (out of a selection of questions: please specify) and may write up to **1,500 words**. **Part II: Economic Modelling and Analysis (50%)**. This part covers the topics addressed in Lectures 6 to 10. Students will be asked to complete Excel models, generate economic results, and analyse and interpret their findings.

COURSE CONTENTS

Lectures 1-5 last a maximum of 2 hours each. The topics include:

- Discussion of current trends in the global energy market, including a short-term focus on the impact of the Russian war in Ukraine, the US-China trade war and the political turmoil in the Middle East.
- Discussion of the impact of the energy transition, its major drivers, and its impact on traditional energy sectors such as oil and gas. A particular focus is on the electricity sector and the impact of renewable energy.
- State actors and the impact of geopolitics in the energy sector. Detailed discussion of developments in the US, Russia, the Middle East, and China and their impact on the global energy economy and global geopolitics.
- Key energy companies and their developing strategies. How are International Oil Companies, National Oil Companies, and smaller players adapting to the energy transition? Is there a future for multinational oil companies and if not what will replace them? How are electricity companies developing and what companies are emerging with new technologies for the energy transition?

Lectures 6-10 involve a more detailed look at strategic decision-making in energy companies. We will look at how investment decisions are made in the gas and electricity sectors, basing our work on Excel spreadsheet models which we will build in class. We will examine the key assumptions needed to build an investment case for energy assets, build a discounted cashflow model and then analyse and assess the results under various scenarios. Students will build their own Excel models, based on a template provided by the professor, and will work in tandem with the teacher to insert key assumptions and generate results. The pace of the lectures will be slow enough to allow everyone to complete the work, but some prior knowledge of Excel is needed. The teaching in class will prepare the students for the examination, which will involve inserting assumptions into a cashflow model and drawing conclusions from the results, as if for presentation to a senior management team.

COURSE MATERIALS (readings and other learning resources/tools)

See above in recommended preparation. Access to Excel spreadsheet (n.b. Microsoft Excel needed, not an Apple alternative).