Durham University
Business School

Department of Economics

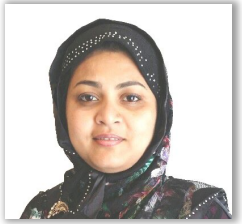
Offer holder webinar
7 March 2025

Masters in Economics programmes

Who we are

Dr Michael Naef
Professor,
Head of Department of Economics

Dr Vsevolod Ostapenko
Programme Director



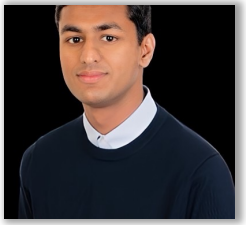
Dr Nourin Shabnam
Deputy Programme Director

Dr Ibrahim Inal
Associate Professor,
Deputy Director of Education

Tim White
Assistant Learning and Teaching Manager

Lorelie Martin
MSc Environmental and Natural Resource Economics student

Madhura Ghosh
MSc Economics student



Imeth Kapuruge
MSc Economics graduate 2024,
Policy Analyst, Bank of England

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Greetings from the Head of Department

Dr Michael Naef
Professor,
Head of Department of Economics

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Upcoming events for our offer holders in China

- Saturday, **15th March**: **Shanghai** (full day)
- Sunday, **16th March**: **Guangzhou** (afternoon)
- Saturday, **22nd March**: **Beijing** (afternoon)

Brief outline

- **Few words about Durham**
- **Overview of Economics programmes**
  - Timeline, modules, how we teach
- **Networking, events and extra-curricular activities**
- **Insights and stories from our students and alumni**
- **Q&A**

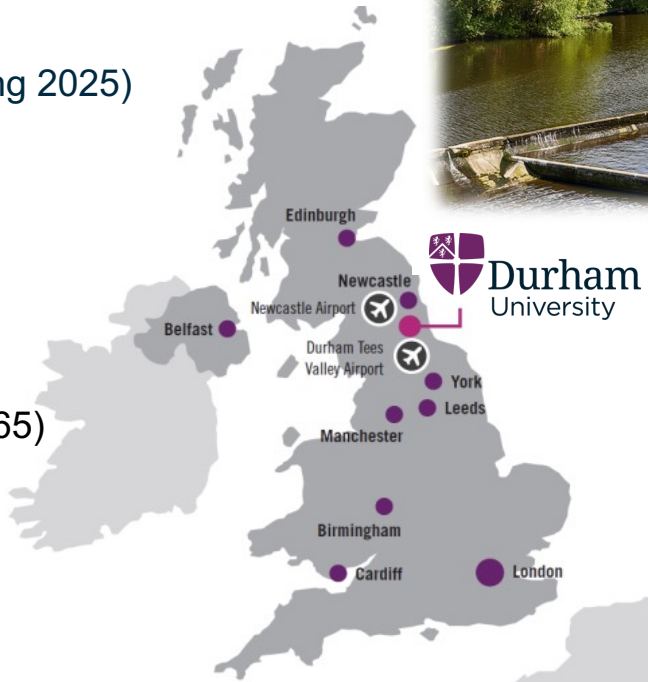
Our University and Business School

Durham University

- England's third oldest University (founded in 1832)
- Located in the historic city of Durham
  - Part of a UNESCO World Heritage Site
- One of a small group of traditional collegiate universities in the UK
- A World Top 100 University (QS Ranking 2025)

Durham University Business School

- Part of elite worldwide group of triple-accredited Business Schools
  - AACSB + AMBA + EQUIS
- One of the longest established Business Schools in the UK (founded in 1965)
- Four departments
  - Accounting, **Economics**, Finance, Management and Marketing



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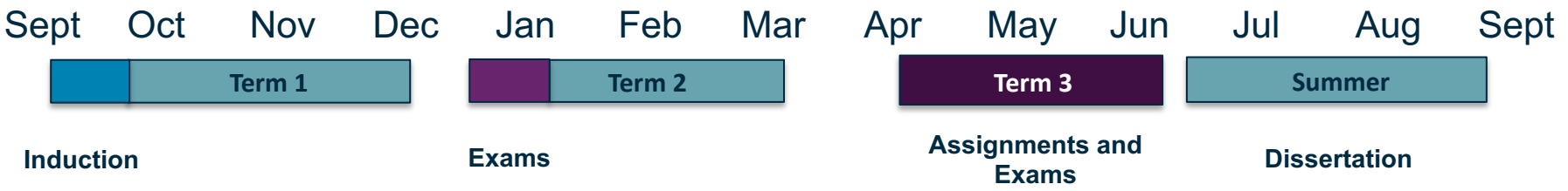
Degree routes

I. MSc **Economics**

II. MSc **Environmental and Natural Resource Economics**

III. MSc **Behavioural Economics**

The programme at a glance: timeline



You must get 180* credits to be awarded a degree

- Credit is a measure of workload (1 credit ≈ 10 hours of learning)
- 120 credits = core and optional modules (each module is worth 15* credits)
- 60 credits = dissertation
- You will normally study 4 modules in term 1 and 4 modules in term 2

* Foreign Language module is worth 20 credits ⟹ if you take it, the total number of credits is 185

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MSc Economics: modules

Pre-sessional modules

(1) Introduction to Economics [online]

(2) Mathematics and Statistics [in-person]

Core modules

(1) Advanced Microeconomics
(2) Advanced Macroeconomics
(3) Econometric Analysis
(4) Time-Series Analysis **OR** Microeconometrics
(5) Dissertation

Optional modules

- Environmental and Climate Economics
- Natural Resource Economics
- Behavioural Economics
- Experimental Economics
- Time-Series Analysis / Microeconometrics
- Data Analytics (tbc)
- Machine Learning (tbc)
- Development Economics
- Game Theory
- Industrial Organisation
- Money and Banking
- International Trade and Finance
- Finance modules:
    - *Capital Market Development* (tbc)
    - *Market Microstructure* (tbc)
- Foreign Language

MSc Environmental and Natural Resource Economics: modules

Pre-sessional modules

(1) Introduction to Economics [online]

(2) Mathematics and Statistics [in-person]

Core modules

(1) Advanced Microeconomics
(2) Advanced Macroeconomics
(3) Econometric Analysis
(4) Time-Series Analysis **OR** Microeconometrics
(5) Environmental and Climate Economics
(6) Natural Resource Economics
(7) Dissertation

Optional modules

- Behavioural Economics
- Experimental Economics
- Time-Series Analysis / Microeconometrics
- Data Analytics (tbc)
- Machine Learning (tbc)
- Development Economics
- Game Theory
- Industrial Organisation
- Money and Banking
- International Trade and Finance
- Foreign Language

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MSc Behavioural Economics: modules

Pre-sessional modules

(1) Introduction to Economics [online]

(2) Mathematics and Statistics [in-person]

Core modules

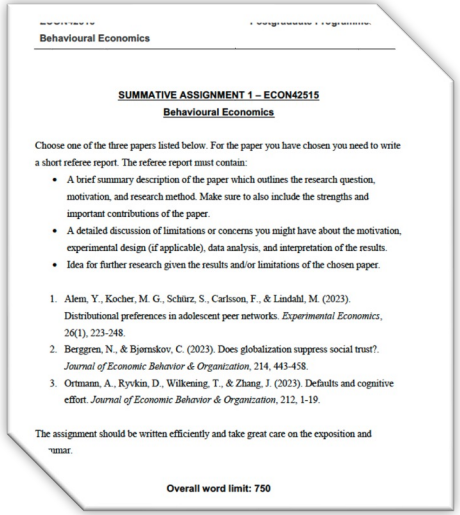
(1) Advanced Microeconomics
(2) Advanced Macroeconomics
(3) Econometric Analysis
(4) Time-Series Analysis **OR** Microeconometrics
(5) Behavioural Economics
(6) Experimental Economics
(7) Dissertation

Optional modules

- Environmental and Climate Economics
- Natural Resource Economics
- Time-Series Analysis / Microeconometrics
- Data Analytics (tbc)
- Machine Learning (tbc)
- Development Economics
- Game Theory
- Industrial Organisation
- Money and Banking
- International Trade and Finance
- *Behavioural and Neurofinance* (tbc)
- *Behavioural Insights for Public Policy* (tbc)
- *Power and Influence* (tbc)
- Foreign Language

How we teach

- **Lectures**
- **Small group activity**
  - Seminars
  - Workshops / practical sessions
  - Dissertation meetings with your supervisor
- **Private study**
  - Reading
  - Problem sets
  - Presentations
  - Assignments
- **Assessment**
  - Coursework + written examinations



Behavioural Economics

SUMMATIVE ASSIGNMENT 1 – ECON42515
Behavioural Economics

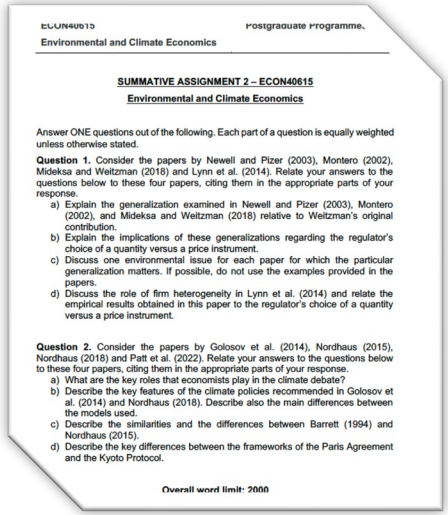
Choose one of the three papers listed below. For the paper you have chosen you need to write a short referee report. The referee report must contain:

- A brief summary description of the paper which outlines the research question, motivation, and research method. Make sure to also include the strengths and important contributions of the paper.
- A detailed discussion of limitations or concerns you might have about the motivation, experimental design (if applicable), data analysis, and interpretation of the results.
- Idea for further research given the results and/or limitations of the chosen paper.

1. Alem, Y., Kocher, M. G., Schürz, S., Carlsson, F., & Lindahl, M. (2023). Distributional preferences in adolescent peer networks. *Experimental Economics*, 26(1), 223-248.
2. Berggren, N., & Bjørnskov, C. (2023). Does globalization suppress social trust?. *Journal of Economic Behavior & Organization*, 214, 443-458.
3. Ortmann, A., Ryvkin, D., Wilkening, T., & Zhang, J. (2023). Defaults and cognitive effort. *Journal of Economic Behavior & Organization*, 212, 1-19.

The assignment should be written efficiently and take great care on the exposition and [illegible]mar.

Overall word limit: 750



ECON40615 Postgraduate Programme.
Environmental and Climate Economics

SUMMATIVE ASSIGNMENT 2 – ECON40615
Environmental and Climate Economics

Answer ONE questions out of the following. Each part of a question is equally weighted unless otherwise stated.

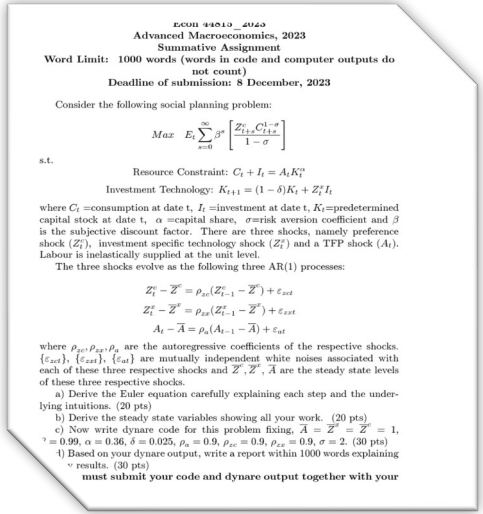
Question 1. Consider the papers by Newell and Pizer (2003), Montero (2002), Mideksa and Weitzman (2018) and Lynn et al. (2014). Relate your answers to the questions below to these four papers, citing them in the appropriate parts of your response.

a) Explain the generalization examined in Newell and Pizer (2003), Montero (2002), and Mideksa and Weitzman (2018) relative to Weitzman's original contribution.
b) Explain the implications of these generalizations regarding the regulator's choice of a quantity versus a price instrument.
c) Discuss one environmental issue for each paper for which the particular generalization matters. If possible, do not use the examples provided in the papers.
d) Discuss the role of firm heterogeneity in Lynn et al. (2014) and relate the empirical results obtained in this paper to the regulator's choice of a quantity versus a price instrument.

Question 2. Consider the papers by Golosov et al. (2014), Nordhaus (2015), Nordhaus (2018) and Patt et al. (2022). Relate your answers to the questions below to these four papers, citing them in the appropriate parts of your response.

a) What are the key roles that economists play in the climate debate?
b) Describe the key features of the climate policies recommended in Golosov et al. (2014) and Nordhaus (2018). Describe also the main differences between the models used.
c) Describe the similarities and the differences between Barrett (1994) and Nordhaus (2015).
d) Describe the key differences between the frameworks of the Paris Agreement and the Kyoto Protocol.

Overall word limit: 2000



Econ 44815 – 2023
Advanced Macroeconomics, 2023
Summative Assignment
Word Limit: 1000 words (words in code and computer outputs do not count)
Deadline of submission: 8 December, 2023

Consider the following social planning problem:

$$Max \quad E_t \sum_{s=0}^{\infty} \beta^s \left[\frac{Z_{t+s}^{\gamma} C_{t+s}^{1-\sigma}}{1-\sigma} \right]$$

s.t.

Resource Constraint: $C_t + I_t = A_t K_t^{\alpha}$

Investment Technology: $K_{t+1} = (1-\delta)K_t + Z_t^x I_t$

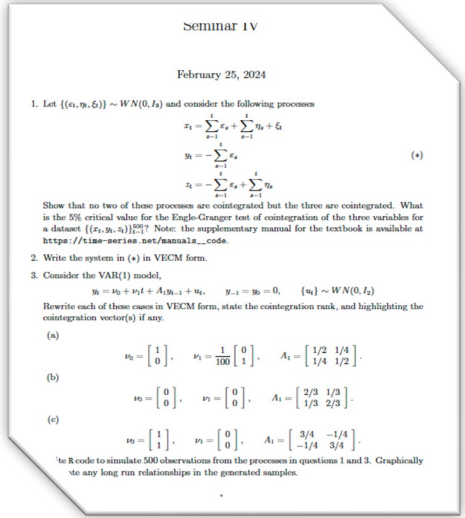
where C_t =consumption at date t, I_t =investment at date t, K_t=predetermined capital stock at date t, α =capital share, σ=risk aversion coefficient and β is the subjective discount factor. There are three shocks, namely preference shock (Z_t^{γ}), investment specific technology shock (Z_t^x) and a TFP shock (A_t). Labour is inelastically supplied at the unit level.

The three shocks evolve as the following three AR(1) processes:

$$Z_t^{\gamma} - \overline{Z}^{\gamma} = \rho_{z\gamma}(Z_{t-1}^{\gamma} - \overline{Z}^{\gamma}) + \varepsilon_{z\gamma t}$$
$$Z_t^{x} - \overline{Z}^{x} = \rho_{zx}(Z_{t-1}^{x} - \overline{Z}^{x}) + \varepsilon_{zxt}$$
$$A_t - \overline{A} = \rho_a(A_{t-1} - \overline{A}) + \varepsilon_{at}$$

where $\rho_{z\gamma}, \rho_{zx}, \rho_a$ are the autoregressive coefficients of the respective shocks. $\{\varepsilon_{z\gamma t}\}$, $\{\varepsilon_{zxt}\}$, $\{\varepsilon_{at}\}$ are mutually independent white noises associated with each of these three respective shocks and $\overline{Z}^{\gamma}, \overline{Z}^{x}, \overline{A}$ are the steady state levels of these three respective shocks.

a) Derive the Euler equation carefully explaining each step and the underlying intuitions. (20 pts)
b) Derive the steady state variables showing all your work. (20 pts)
c) Now write dynare code for this problem fixing, $\overline{A} = \overline{Z}^{x} = \overline{Z}^{\gamma} = 1$, $\beta = 0.99$, $\alpha = 0.36$, $\delta = 0.025$, $\rho_a = 0.9$, $\rho_{z\gamma} = 0.9$, $\rho_{zx} = 0.9$, $\sigma = 2$. (30 pts)
d) Based on your dynare output, write a report within 1000 words explaining your results. (30 pts)
You must submit your code and dynare output together with your



Seminar 1V

February 25, 2024

1. Let $\{(\varepsilon_t, \eta_t, \xi_t)\} \sim WN(0, I_3)$ and consider the following processes

$$x_t = \sum_{s=1}^{t} \varepsilon_s + \sum_{s=1}^{t} \eta_s + \xi_t$$
$$y_t = -\sum_{s=1}^{t} \varepsilon_s \qquad (*)$$
$$z_t = -\sum_{s=1}^{t} \varepsilon_s + \sum_{s=1}^{t} \eta_s$$

Show that no two of these processes are cointegrated but the three are cointegrated. What is the 5% critical value for the Engle-Granger test of cointegration of the three variables for a dataset $\{(x_t, y_t, z_t)\}_{t=1}^{100}$? Note: the supplementary manual for the textbook is available at `https://time-series.net/manuals_code`.

2. Write the system in $(*)$ in VECM form.

3. Consider the VAR(1) model,

$$y_t = \nu_0 + \nu_1 t + A_1 y_{t-1} + u_t, \qquad y_{-1} = y_0 = 0, \qquad \{u_t\} \sim WN(0, I_2)$$

Rewrite each of these cases in VECM form, state the cointegration rank, and highlighting the cointegration vector(s) if any.

(a)
$$\nu_0 = \begin{bmatrix} 1 \\ 0 \end{bmatrix}, \quad \nu_1 = \frac{1}{100}\begin{bmatrix} 0 \\ 1 \end{bmatrix}, \quad A_1 = \begin{bmatrix} 1/2 & 1/4 \\ 1/4 & 1/2 \end{bmatrix}.$$

(b)
$$\nu_0 = \begin{bmatrix} 0 \\ 0 \end{bmatrix}, \quad \nu_1 = \begin{bmatrix} 0 \\ 0 \end{bmatrix}, \quad A_1 = \begin{bmatrix} 2/3 & 1/3 \\ 1/3 & 2/3 \end{bmatrix}.$$

(c)
$$\nu_0 = \begin{bmatrix} 1 \\ 1 \end{bmatrix}, \quad \nu_1 = \begin{bmatrix} 0 \\ 0 \end{bmatrix}, \quad A_1 = \begin{bmatrix} 3/4 & -1/4 \\ -1/4 & 3/4 \end{bmatrix}.$$

[illegible]te R code to simulate 500 observations from the processes in questions 1 and 3. Graphically [illegible]te any long run relationships in the generated samples.

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Who will teach you

Department of Economics:

- More than 40 members of academic staff
- Teaching is research-based
- Your lecturers do the top-notch research and have a strong publication record in their field
- Members of 6 research centres:
  - Centre for Experimental Methods and Behavioural Research
  - Centre for Environmental and Energy Economics
  - Centre for Macroeconomic Policy
  - Durham Research in Economic Analysis and Mechanisms
  - Centre for Banking Institutions and Development
  - Centre for Quantitative Research in Financial Economics

1:1 contact hours

Academic advisers

- Individual discussion of various matters related to your personal academic performance
- Advice and feedback on your academic progress
- Recommendation letters at any point of your study

Office hours

- Opportunity to raise questions related to the content of modules, assessment etc.
- Meetings with any member of staff:
  - Module leaders / lecturers
  - Seminar tutors

Networking events and skills development opportunities

Dr Nourin Shabnam
Deputy Programme Director

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Networking Events - Induction

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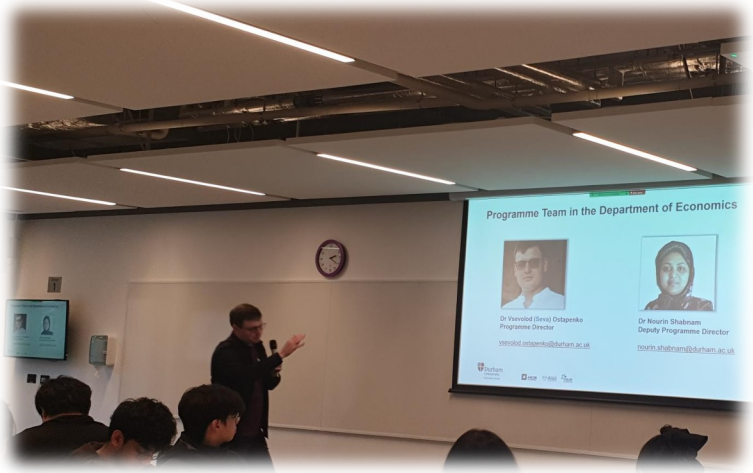
Induction

- **Induction event includes:**
    - Information session
    - Classroom mingling
    - Interactive quiz session
    - Scavenger hunt



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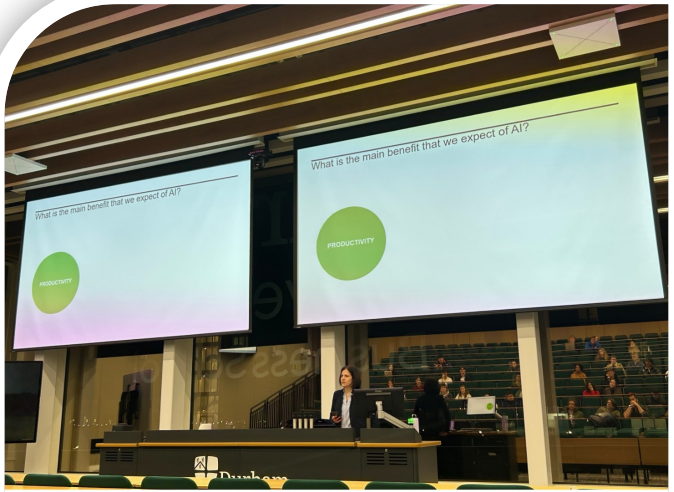
Networking Events – Public Lectures

Public lectures

- **Public lectures by high-profile academics and practitioners:**
    - Jonathan Haskell (Imperial College and Bank of England)
    - Victoria Saporta (Bank of England)
    - Dennis Tatarkov (KPMG)
    - Sandra Batten (Bank of England)
    - Cosmina Dorobantu (Alan Turing Institute)
    - Brett Manning (Upstart)


Automation in the labour market


KPMG
Economic and labour market impacts of Generative AI


What is the main benefit that we expect of AI?
PRODUCTIVITY
What is the main benefit that we expect of AI?
PRODUCTIVITY


Shadow Banking
Why we should be happy we're seeing long duration assets backing long duration liabilities!
Durham


What does the practice look like?
What does the practice look like?
Department for Business & Trade

Social Events

- **Social events (student-staff gathering)**
  - Welcome Reception and Informal Get-Together
  - MSc Christmas Dinner
  - MSc Post-Exam Celebration Dinner (due in mid-June)

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MSc Economics End of
Year Dinner Event

Optional training for skill development

- Econometrics drop-in sessions
- Python training course

MSc Economics Social Café

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Adding to your experience: company tour (field trip)

Dr Ibrahim Inal
Associate Professor,
Deputy Director of Education

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Hear from our students: first-hand evidence

Lorelie Martin
MSc Environmental and Natural Resource Economics student

Madhura Ghosh
MSc Economics student

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College life

A distinctive collegiate system:

- **17 Colleges**
  - Mixed communities of UG and PG students
    - Ustinov college – dedicated only to PG students
  - Students study across all subjects
  - Create a sense of belonging
  - 200+ clubs and societies
    - Dancing, cooking, memes, sports, board games…
  - Social events and dinners
  - Make friends for all your life!
  - Welfare and pastoral support

College life

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London Field Trip

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Hear from our graduates: reflections on studying at Durham

Imeth Kapuruge
MSc Economics graduate 2024,
Policy Analyst, Bank of England

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Career support

- Dedicated Careers & Enterprise team
- Advice and guidance on career planning
- Offers you the opportunity to build your employability skills
  - Discovering career possibilities
  - Supporting with CV and applications
  - Preparing for job interviews
- Individual career appointments
- Organising a lot of employer events
  - Career fairs, forums, presentations, pop-up events…

Student support

We provide access to a wide range of support services to help you **feel well**, **comfortable** and **get the most** from your experience (immigration, healthcare, wellbeing, counselling, chaplaincy and faith etc.)

Academic Skills Centre

- Comprehensive assistance for the development of various skills:
  - Academic writing
  - Managing with written/spoken assessments
  - Digital competencies
- Besides the taught sessions in different formats, there are drop-in sessions for more immediate assistance

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For more information following this session:

- **Contact me via email:**
  vsevolod.ostapenko@durham.ac.uk

- **Check out lots of useful pre-information on the Masters Hub**

- **Please sign up for our upcoming sessions:**

International Opportunities : Wednesday 12 March, 9.30am - 10.30am (GMT)

Durham Masters in Economics Webinar: Taster Module Session : Monday 7 April, 10am - 11am (BST)

Masters drop in Q&A with Business School students and alumni : Thursday 17 April 2pm - 3pm (BST)

Durham Masters Webinar: Scholarships and Funding Webinar : Friday 25 April 2025, 1pm - 2pm (BST)

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Thank you for attending!