Clark University
Department of Economics

ECON307
Ph.D. International Economics

Version: 2024/08/27

Lecture Information

Time: Monday and Wednesday, 12:00 – 01:15 pm
Location: Jonahs Clark Hall Room JC117

Instructor Information

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Office	JC221
Office hours	M 4-6pm and by appointment

Course Description

This course provides a graduate-level introduction to the field of international trade. The course is intended to familiarize students with the standard tool kit that all trade/spatial economists should master. In particular, this course focus on the quantitative models of international trade, allowing students to understand the workhorse models in the field, to develop their own models, to solve the models numerically, and to bring the model to the data. Although the applications covered in the class are mainly in trade, the tools and methods are applicable to other fields in economics, including but not limited to spatial, regional/urban, development, and labor.

Requirements and Grading

Before taking this course, you must complete the sequence of PhD-level microeconomics and macroeconomics courses. The course will be graded based on the following components with equal weights.

- **Problem sets**: There will be five to six problem sets (subject to change). You may work on these problems in groups. Some problems may require using numerical analysis software, such as Matlab, Julia, or Python. Clark University provides free access to Matlab. Visit the ITS website for more information. Statistical software such as Stata cannot be a substitute.
- **Presentations on a paper**: Students will also form groups of two and each group will make a 30-minute presentation based on a paper from a list that will be made available later.

- **Research proposal**: Each student will write a proposal for a research paper. The topic is not limited to trade, but it should be related to the topics, tools, or methods covered in the course. Purely empirical papers are not accepted.

Readings

The primary text for this course is **Treb Allen and Costas Arkolakis (AA), *Elements of Advanced International Trade*, 2015.** The book is available for free on the authors website. Reading the relevant chapters before the lecture is required. Additionally, lecture notes will occasionally be posted on CANVAS before the relevant lecture. Below are books that have relevant material. They are not required for purchase.

- Robert Feenstra, *Advanced International Trade: Theory and Evidence*, 2nd edition, Princeton University Press, 2016. (F)
- Elhanan Helpman and Paul Krugman, *Market Structure and Foreign Trade*, MIT Press, 1985. (HK)
- Avinash Dixit and Victor Norman, *Theory of International Trade*, Cambridge Economic Handbooks, 1980. (DN)

Course Contents

1. Preliminaries: Cobb-Douglas and CES demand system (Week 1)
   - **Required**: AA Chapter 3.1
2. Armington Model (Week 1)
   - **Required**: AA Chapter 3.3
   - **Additional**: Armington (1969); Anderson (1979); Anderson and van Wincoop (2003)
3. Multi-country Ricardian Model: Eaton-Kortum Model (Week 2–4)
   - **Required**: AA Chapter 4.1–4.3
   - **Additional**: Eaton and Kortum (2002); Caliendo and Parro (2015); Dekle et al. (2008)
   - **Homework**: EK
4. Computation of the Quantitative Model (Week 5–6)
   - **Required**: AA Chapter 6.4–6.5
   - **Homework**: Coding EK model
5. Trade with Homogeneous Firms: Krugman Model (Week 7)
   - **Required**: AA Chapter 3.4
   - **Additional**: Krugman (1980)
6. Trade with Heterogeneous Firms: Melitz-Chaney Model (Week 8–9)
   - **Required**: AA Chapter 4.5

- **Additional**: Melitz (2003); Chaney (2008)

7. Calibration of the Quantitative Model (Week 10–11)
   - **Required**: AA Chapter 10.1–10.2, 11.1
   - **Homework**: calibrate fundamentals of the EK model (estimation and model inversion)
8. Application to Spatial Economics and Labor Economics (Week 12)
   - **Required**: Redding (2016); Burstein et al. (2019a)
9. Student presentations (Week 13–14)
   - Schedule on December 2, 4, and 9

Homework

- You may work on the homework in groups. However, each student must submit their own work and write down the names of the group members.
- For the analytical problems, typesetting with LaTeX is highly recommended. You may use this template on Overleaf (create an account on Overleaf and then make a copy of the project).
- For the numerical problems, you may use any software, but Matlab and Julia are highly recommended. All the files (e.g., main code, functions, and data) should be saved in a single zipped folder. Make sure that the code runs without any errors before submission. Attach a short document summarizing the results and the interpretation of the results.

Student Presentation

- You will form groups of two and each group will make a 30-minute presentation based on a paper from a list that will be made available later.
- When reading a paper, you might want to ask yourself ...
  - What is the motivation and research question(s)?
  - What is the theoretical framework? What are the novelty and contribution?
  - What are the data, if any, being used?
  - What is the empirical strategy to quantify the model?
  - What are the main results?
  - What do we learn?
  - What questions does this paper leave unanswered and what is the next paper to be written?
- List of papers
  1. Caliendo et al. (2019)
  2. Eaton et al. (2016)
  3. Levchenko and Zhang (2016)

4. Waugh (2010)
5. Eaton et al. (2011)
6. Fajgelbaum (2019)
7. Arkolakis et al. (2018)
8. Allen et al. (2020)
9. Galle et al. (2022)
10. Uy et al. (2013)
11. Ravikumar et al. (2019)
12. Antràs et al. (2017)
13. Adao et al. (2017)
14. Lind and Ramondo (2023)
15. Dhyne et al. (2022)
16. Burstein et al. (2019b)
17. Sotelo (2020)
18. Lashkaripour (2020)
19. Alfaro et al. (2019)
20. Davis and Dingel (2020)
21. Spearot (2016)
22. Caliendo et al. (2020)
23. Fernandes et al. (2023)
24. Sugita et al. (2023)

Research Proposal

- You are to submit the research proposal by the end of the semester. Writing a proposal is a preliminary step that helps you transition from the coursework phase to the research phase in the Ph.D. program.
- The topic of the research proposal is not limited to trade, but it should be related to the topics, tools, or methods covered in the course.
- As this class is designed to familiarise you with the workhorse models in quantitative general equilibrium, you are to develop a quantitative model.
- The proposal should be 5–10 pages long and include the following sections:
  - Motivation: why is this topic important? Do you have any motivating empirical facts?
  - Research question(s): what is the main question you are trying to answer?
  - Model: what are the key ingredients of the model? What are the equilibrium conditions?
  - Numerical exercise or empirical evidence:
  - Next steps: what are the next steps in the research?

Late Work Policy

Assignments turned in after class must be accompanied by a valid excuse. In the absence of a valid excuse, assignments will lose half the points if turned in within 24 hours and will not be accepted thereafter.

Academic Integrity

All students are expected to adhere to Clark's standards of academic integrity; this means that all work must be entirely your own and entirely unique to this course. Plagiarism and other forms of cheating will not be tolerated or excused. For more information, please refer to the university's policy on this issue, available at http://web.clarku.edu/policies/detailpolicy.cfm?pid=43 or in the student handbook. If you have any questions about proper citation or other related issues, please don't hesitate to come see me.

Turnitin: Writing assignments in this course may be submitted to Turnitin. Turnitin generates a report on the originality of your writing by comparing it with a database of periodicals, books, online content, student papers, and other published work. Make sure you are using sources fairly, citing properly, and paraphrasing effectively.

AI System: To ensure all students have an equal opportunity to succeed and to preserve the integrity of the course, you are not permitted to submit text that is generated by AI systems such as ChatGPT, Google Bard, or any other automated assistance for any classwork or assessments. This includes using AI to generate answers to assignments, exams, or final papers. Using AI in this way undermines your ability to develop critical thinking, writing, or research skills. You may use AI as part of your research and preparation for assignments, but the text that is submitted must be written by yourself. For example, you may use AI to generate ideas, questions, or summaries, and then you revise, expand, or cite properly. Violations of this policy will be treated as academic misconduct. If you have any questions about this policy or if you are unsure whether a particular use of AI is acceptable, please do not hesitate to ask me.

Students with Documented Disability

Clark University is committed to providing students with documented disabilities equal access to all university programs and facilities. Students are encouraged to register with Student Accessibility Services (SAS) to explore and access accommodations that may support their success in their coursework. SAS is located on the second floor of the Shaich Family Alumni and Student Engagement Center (ASEC). Please contact SAS at accessibilityservices@clarku.edu with questions or to initiate the registration process. For additional information, please visit the SAS website at: https://www.clarku.edu/offices/student-accessibility-services/

Title IX

Clark University and its faculty are committed to creating a safe and open learning environment for all students. Clark University encourages all members of the community to seek support and report incidents of sexual harassment to the Title IX office titleix@clarku.edu. If you or someone you know has experienced any sexual harassment, including sexual assault, dating or domestic violence, or stalking, help and support is available. Please be aware that all Clark University faculty and teaching assistants are considered responsible employees, which means that if you tell me about a situation involving the aforementioned offenses, I must share that information with the Title IX Coordinator, Brittany Rende (titleix@clarku.edu). Although I have to make that notification, you will, for the most part, control how your case will be handled, including whether or not you wish to pursue a formal complaint. Our goal is to make sure you are

aware of the range of options available to you and have access to the resources you need. If you wish to speak to a confidential resource who does not have this reporting responsibility, you can contact Clark's Center for Counseling and Professional Growth (508-793-7678), Clark's Health Center (508-793-7467), or confidential resource providers on campus: Prof. Stewart (als.confidential@clarku.edu), Prof. Palm Reed (kpr.confidential@clarku.edu), and Prof. Cordova (jvc.confidential@clarku.edu).

FERPA

The link to Clark's policy regarding student privacy under the Family Education Rights and Privacy Act is available here: https://www.clarku.edu/offices/security-and-identification-protection/ferpa/

Disclaimer

I reserve the right to make changes to any information contained in this syllabus at any time during the semester. In the event that this happens, an updated version of the syllabus will be discussed in class and distributed via the course website.

References

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