# Quantitative Trade Models

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| **Basics** | Georgetown University Qatar   Spring 2017<br>ECON 442: Quantitative Trade Models<br><br>Class time: 11:05am–12:20pm Sun, Tues<br>Class location: LA12<br><br>Course website: http://rossbach.georgetown.domains/econ442.html |
| **Instructor** | Jack Rossbach                         Office hours: 1:45-2:45pm Tues<br>jack.rossbach@georgetown.edu      Office location: 0D25 |

**Course Description**

This course will cover theoretical and quantitative aspects of international trade. The goal of the semester will be to learn how to solve modern trade models computationally and calibrate them using data in order to perform counterfactuals. We will start by briefly reviewing Ricardian and Heckscher-Ohlin theories of trade before moving on to more modern models featuring monopolistic competition and firm-level heterogeneity. We will review the trade gravity literature, familiarize ourselves with datasources for international trade flows, and discuss international trade agreements and optimal trade policy.

**Assessment Methods**

**Assignments & Problem Sets          50%**
There will be several short assignments based off lectures (20%). In addition, there will be two or three major problem sets/projects (30%) assigned over the semester. ASSIGNMENTS MUST BE TYPED (word, latex, mathtype, lyx, etc) and can be submitted in person or by email. Assignments will be penalized 10 points each week they are late, and penalized 15 points if they are not typed (out of 100).

**Class Participation                    20%**
Students will also be expected to participate in in-class discussions and exercises. Attendance will be taken on days where we have discussions, labs, or worksheets.

**Short Exams                            20%**
There will be two or three short exams (30-50 minutes in length), annouced at least one week in advance.

**Final Report                          10%**
Students will be asked to write a 3-5 page report on a recent paper or policy reform

**Grading Scale**

A-F with standard cutoffs: A = 93, A- = 90, B+ = 87, B = 83, B- = 80, C+ = 77, C = 73, C- = 70, D+ = 67, D = 63, D- = 60, F = Below 60.

**Course Materials**

This course will not follow a specific textbook. Selected readings will be provided. Lecture notes and slides will be made available on the course website.

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| Topics | **Preliminaries**<br>Gains from trade, comparative advantage, partial vs general equilibrium<br><br>**Introduction to Computational Model Solving**<br>Solving systems of equations, newtons method<br><br>**Trade Policy**<br>Free trade agreements, tariff and non-tariff barriers, political economy<br><br>**New Trade Theory**<br>Monopolistic competition, increasing returns to scale<br><br>**Heterogeneity**<br>Export decisions, multi-dimensional Ricardian models, the extensive margin<br><br>**Gravity Models**<br>Gravity regressions, welfare analysis, counterfactuals |
| Course Goals | Following the completion of this course students should<br>-Understand modern and historic perspectives on international trade<br>-Gain familiarity with data sources available for studying international trade flows<br>-Be able to solve economic models of trade both analytically and computationally<br>-Have the tools and knowledge to manipulate and interpret data through the lens of the economic models and theories studied in this course |
| Computation | This course will involve a significant amount of computational work and data manipulation.  Software used in this course will include Excel, Stata, and R.  No prior experience with Stata or R is assumed or required. |
| Additional Policies | No late work will be accepted following the last day of class.<br>Short exams will not be rescheduled.  Students who miss the exam with an excused absence will have the other exams weighted in place of the missed exam. |
| Absences | https://qatar.sfs.georgetown.edu/programs/academic-affairs-policies |
| Academic Integrity | https://qatar.sfs.georgetown.edu/programs/honor-system/sfs-q-honor-system |