

**University of Waterloo**  
**Department of Economics**  
**Economics 488/623/723: Applied Macroeconometrics**  
**Winter 2018**

**Lecture Time/Location:** Monday and Wednesday, 1:00pm - 2:20pm, DWE 3519

**Instructor:** Tom Parker

**Office:** HH 206

**Office Hours:** Mondays, 3pm - 4pm or by appointment

**Email/Phone:** (email preferred) [tmparker@uwaterloo.ca](mailto:tmparker@uwaterloo.ca) / x38600

**Course Objective:**

This course focuses on econometric methods used to analyze dynamic economic models. We will start with general time series tools that are used in the analysis of dynamic (microeconomic and macroeconomic) models. Then we will move on to multivariate methods that are more specialized for the analysis of macroeconomic data.

**Textbook:**

There is no required textbook for this course. I will be using material from several books (a sketchy bibliography will be added to the course website) but will post notes to the course website as we go along.

**Topics:**

The exact timing will be determined as we go along, but here are the planned topics in the planned order. The depth that last three topics will be covered will depend on timing and class interest.

1. **Stationarity:** Stationary stochastic processes, features and decompositions
2. **Building blocks:** Autoregressive, moving average and ARMA models
3. **Models as tools:** Model selection, prediction and inference
4. **Multivariate data:** Vector autoregressions
5. **Panel data:** Estimation and inference methods for panel data
6. **Volatility:** Autoregressive conditional heteroskedasticity and related models
7. **Nonstationarity:** Unit roots and cointegration
8. **Structural models:** Estimation (perhaps Bayesian) of structural models of the macroeconomy

There will be approximately one homework assignment per two itemized sections listed above. In order to differentiate the three classes that meet simultaneously in this course, there will be questions on homework and exams that all students will answer, some additional ones that 623 and 723 students will answer, and *more* additional questions that only 723 students will answer.

**Evaluation:**

Your mark will be made up of the following parts, with relative weights in parentheses below. Homework may be completed in groups of up to three people.

1. Homework (40%)

2. Midterm Exam (30%)
3. Final Exam (30%)

### Other administrative details:

#### Academic Integrity

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the [UWaterloo Academic Integrity](#) webpage and the Arts [Academic Integrity](#) webpage for more information.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under [Policy 71 – Student Discipline](#). For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline. For typical penalties check [Guidelines for the Assessment of Penalties](#).

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70 - Student Petitions and Grievances](#), Section 4. When in doubt, please be certain to contact the department’s administrative assistant who will provide further assistance.

Appeals: A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 - Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72 - Student Appeals](#).

#### Accommodation for Students with Disabilities

Note for students with disabilities: [The AccessAbility Services office](#), located on the first floor of the Needles Hall extension (1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.

#### Mental Health Support

All of us need a support system. The faculty and staff in Arts encourage students to seek out mental health supports if they are needed.

##### On Campus

- Counselling Services: [counselling.services@uwaterloo.ca](mailto:counselling.services@uwaterloo.ca) / 519-888-4567 ext 32655
- **MATES**: one-to-one peer support program offered by Federation of Students (FEDS) and Counselling Services
- Health Services Emergency service: located across the creek from Student Life Centre

##### Off campus, 24/7

- **Good2Talk**: Free confidential help line for post-secondary students. Phone: 1-866-925-5454
- Grand River Hospital: Emergency care for mental health crisis. Phone: 519-749-433 ext. 6880
- **Here 24/7**: Mental Health and Crisis Service Team. Phone: 1-844-437-3247
- **OK2BME**: set of support services for lesbian, gay, bisexual, transgender or questioning teens in Waterloo. Phone: 519-884-0000 extension 213

Full details can be found online at the Faculty of ARTS [website](#) Download [UWaterloo and regional mental health resources \(PDF\)](#) Download the [WatSafe](#) app to your phone to quickly access mental health support information

### **Territorial Acknowledgement**

We acknowledge that we live and work on the traditional territory of the Attawandaron (Neutral), Anishinaabeg and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes ten kilometers on each side of the Grand River.