EMET3007/4312/8012
Business and Economic Forecasting

Accurate forecasting of future events and their outcomes is a crucial input into a successful business or economic planning process. This course provides an introduction to the application of various forecasting techniques. The course also looks at techniques for the evaluation of performance of forecasting methods and examines the role of forecasts in the decision making process. Students will learn how to use the various techniques in real world forecasting applications.

<table>
<thead>
<tr>
<th>Mode of Delivery</th>
<th>On campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites</td>
<td>As listed in Programs and Courses</td>
</tr>
<tr>
<td>Incompatible Courses</td>
<td>As listed in Programs and Courses</td>
</tr>
<tr>
<td>Co-taught Courses</td>
<td>EMET3007, EMET4312, EMET8012</td>
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<tr>
<td></td>
<td>Graduate students attend joint classes with undergraduates but are assessed separately</td>
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</tbody>
</table>

Course Convener: Bogdan Klishchuk
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Email: bogdan.klishchuk@anu.edu.au
Office hours for student consultation: Friday 2-3pm in Arndt 1008

Research Interests: General Equilibrium, Financial Economics, Decision Theory, Social Choice

Lecturer(s): Course Convener indicated above
Phone(s): Indicated above
Email(s): Indicated above
Office hours for student consultation: Indicated above

Tutor(s) (optional): To be announced on Wattle

SEMESTER 2
2017
COURSE OVERVIEW

Learning Outcomes

Upon successful completion of the requirements for this course, students will be able to:

- Understand various important concepts in forecasting and different approaches for modelling trend, seasonality and persistence
- Use the analytical tools that econometricians employ to analyze data
- Tailor-make models for their applications and use them to produce forecasts
- Complete basic programming tasks, including reading and modifying existing codes
- Understand journal articles that use intermediate forecasting methods (only EMET4312 and EMET8012 students)

Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
<th>Date for Return of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mid-semester exam (redeemable)</td>
<td>25% (or 0%)</td>
<td>Week 6 or Week 7</td>
<td>Arrangements to view script books will be posted on Wattle</td>
</tr>
<tr>
<td>2. Final exam</td>
<td>60% (or 85%)</td>
<td>Exam Weeks</td>
<td></td>
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<tr>
<td>3. Assignment</td>
<td>15%</td>
<td>Week 12</td>
<td>Before final exam</td>
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Research-Led Teaching

The course covers both traditional topics and the latest research on forecasting, including recent techniques from the machine-learning literature.

Feedback

Staff Feedback
In this course, students will be given feedback in the form of verbal comments to the whole class in lecture, to tutorial groups in tutorial, and individually during consultation hours.

Student Feedback
ANU is committed to the demonstration of educational excellence and regularly seeks feedback from students. One of the key formal ways students have to provide feedback is through Student Experience of Learning Support (SELS) surveys. The feedback given in these surveys is anonymous and provides the Colleges, University Education Committee and Academic Board with opportunities to recognise excellent teaching, and opportunities for improvement.

For more information on student surveys at ANU and reports on the feedback provided on ANU courses, go to

Policies

ANU has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and implement them. You can find the University's education policies and an explanatory glossary at: http://policies.anu.edu.au/

Students are expected to have read the Academic Misconduct Rule before the commencement of their course.

Other key policies include:

- Student Assessment (Coursework)
- Student Surveys and Evaluations

Required Resources

The textbook for this course is Economic Forecasting by Elliott and Timmermann.

I chose this book because it is unique in the sense of covering many recent developments and emphasising both economics and statistics of the forecasting problem. I will assign only selected pages because “the assumed econometric level of the reader is that of someone who has taken a graduate or advanced undergraduate course in econometrics”. Lectures and tutorials will be particularly important for making difficult material accessible at the level of the course prerequisites. The pay-off of such a hard work will be up-to-date training in business and economic forecasting.

Assigned readings will be posted on Wattle as we go.

Since the book was published only last year and the library did not have a copy, I requested that the library purchase several copies and place on 2 hour reserve.

Examination material or equipment

Details about the material or equipment that is permitted in an examination room will be announced on Wattle before exams.
### COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Week/Session</th>
<th>Summary of Activities</th>
<th>Assessment</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Loss Functions</td>
<td></td>
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<tr>
<td>2</td>
<td>Parametric Forecasting Problem</td>
<td></td>
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<tr>
<td>3</td>
<td>Classical Estimation of Forecasting Models, Bayesian Forecasting Methods</td>
<td></td>
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<tr>
<td>4</td>
<td>Model Selection</td>
<td></td>
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<tr>
<td>5</td>
<td>Model Selection</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Univariate Prediction Models</td>
<td>Possible mid-semester exam</td>
</tr>
<tr>
<td>7</td>
<td>Univariate Prediction Models</td>
<td>Possible mid-semester exam</td>
</tr>
<tr>
<td>8</td>
<td>Univariate Prediction Models, Vector Autoregressions</td>
<td></td>
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<tr>
<td>9</td>
<td>Vector Autoregressions, Forecasting in Data-Rich Environment</td>
<td></td>
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<tr>
<td>10</td>
<td>Forecasting in Data-Rich Environment</td>
<td></td>
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<tr>
<td>11</td>
<td>Nonparametric Forecasting Methods</td>
<td></td>
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<tr>
<td>12</td>
<td>Binary Forecasts</td>
<td>Assignment</td>
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<tr>
<td></td>
<td>Examination Period</td>
<td>Final exam</td>
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### ASSESSMENT REQUIREMENTS

The ANU is using Turnitin to enhance student citation and referencing techniques, and to assess assignment submissions as a component of the University's approach to managing Academic Integrity. For additional information regarding Turnitin please visit the [ANU Online](https://anuonline.anu.edu.au) website.

Students may choose not to submit assessment items through Turnitin. In this instance you will be required to submit, alongside the assessment item itself, copies of all references included in the assessment item.

As a further academic integrity control, students may be selected for a 15 minute individual oral examination of their written assessment submissions.

Any student identified, either during the current semester or in retrospect, as having used ghost writing services will be investigated under the University's Academic Misconduct Rule.
Assessment Tasks

Assessment Task 1: Mid-semester exam

The assessment weight of the mid-semester exam is 25%, but this weight will be automatically transferred to the final exam if doing so increases the student’s course mark. The mid-semester exam is optional, although strongly recommended, and there will be no deferrals for this exam. The exact date and time of this exam will be decided by the ANU Examinations Section.

Assessment Task 2: Final exam

The assessment weight of the final exam is 60%, but the weight of the mid-semester exam (25%) will be automatically transferred to the final exam if doing so increases the student’s course mark. The final exam will cover material presented throughout the semester. The exact date and time of this exam will be decided by the ANU Examinations Section.

Assessment Task 3: Assignment

The assignment will assess the ability to work with data and to produce forecasts.

Assignment submission

Online Submission: Unless an exemption has been approved by the Associate Dean (Education) a submission must be through Turnitin. Assignments are submitted using Turnitin in the course Wattle site. You will be required to electronically sign a declaration as part of the submission of your assignment. Please keep a copy of the assignment for your records.

Extensions and penalties

Extensions and late submission of assessment pieces are covered by the Student Assessment (Coursework) Policy and Procedure.

The Course Convener may grant extensions for assessment pieces that are not examinations or take-home examinations. If you need an extension, you must request it in writing on or before the due date. If you have documented and appropriate medical evidence that demonstrates you were not able to request an extension on or before the due date, you may be able to request it after the due date.

No submission of assessment tasks without an extension after the due date will be permitted. If an assessment task is not submitted by the due date, a mark of 0 will be awarded.

Returning assignments

Student work is to be returned through Turnitin.
**Resubmission of assignments**

No resubmission of assignments will be permitted.

**Scaling**

Your final mark for the course will be based on the raw marks allocated for each of your assessment items. However, your final mark may not be the same number as produced by that formula, as marks may be scaled. Any scaling applied will preserve the rank order of raw marks (i.e., if your raw mark exceeds that of another student, then your scaled mark will exceed the scaled mark of that student), and may be either up or down.

**Privacy Notice**

The ANU has made a number of third party, online, databases available for students to use. Use of each online database is conditional on student end users first agreeing to the database licensors terms of service and/or privacy policy. Students should read these carefully.

In some cases student end users will be required to register an account with the database licensor and submit personal information, including their: first name; last name; ANU email address; and other information.

In cases where student end users are asked to submit content to a database, such as an assignment or short answers, the database licensor may only use the students content in accordance with the terms of service including any (copyright) licence the student grants to the database licensor.

Any personal information or content a student submits may be stored by the licensor, potentially offshore, and will be used to process the database service in accordance with the licensors terms of service and/or privacy policy.

If any student chooses not to agree to the database licensors terms of service or privacy policy, the student will not be able to access and use the database. In these circumstances students should contact their lecturer to enquire about alternative arrangements that are available.

**Tutorial Seminar Registration**

Tutorial signup for this course will be done via the Wattle website. Detailed information about signup times will be provided on Wattle or during your first lecture. When tutorials are available for enrolment, follow these steps:

1. Log on to Wattle, and go to the course site
2. Click on the link ‘Tutorial enrolment’
3. On the right of the screen, click on the tab ‘Become Member of …’ for the tutorial class you wish to enter
4. Confirm your choice

If you need to change your enrolment, you will be able to do so by clicking on the tab ‘Leave group…’ and then re-enrol in another group. You will not be able to enrol in groups that have reached their maximum number. Please note that enrolment in ISIS must be finalised for you to have access to Wattle.

SUPPORT FOR STUDENTS

The University offers a number of support services for students. Information on these is available online from http://students.anu.edu.au/studentlife/