University of Leicester

Department of Economics

EC 2019
Sampling and Inference

MODULE INFORMATION

Academic Year: 2009-20010 **Lectures: 20**

Year: 2 **Classes: 10**

Credits: 15 **Private Study: 80**

Semester: 1 **Total Hours: 130**

Prerequisites: Students should have a good working knowledge of basic probability and distribution theory, simple matrix algebra and the rudiments of statistical inference. This background material will have been covered in modules EC1011, EC1012, EC1013 and EC1014.

MODULE LECTURER

Lecturer: Stephen Pollock **Room: Astley Clarke 108**

Telephone: 0116 252 5368

Office Hours: Wednesday 10.30—12.30, **Email: d.s.g.pollock@le.ac.uk**

MODULE AIMS

Main Purpose: **To deepen and consolidate knowledge of probability and statistics, with a focus on sampling and inference, as they pertain to Econometrics.**

MODULE DELIVERY

Lectures: **Thursdays 12.0---14.00 George Porter Upper Ground Floor Lecture Theatre A**

Classes:

Fridays 15:00—16:00 George Porter Upper Ground Floor Lecture Theatre A

(The class may be continued beyond 16.00)

ASSESSMENT

Assessment is by a two-hour exam at the end of the semester (in January).

READING LIST

The texts of the lectures will be found on the following web addresses

http://www.le.ac.uk/users/dsgp1/

http://www.qmul.ac.uk/~ugte133/

where they will accumulate as the course progresses

There are numerous texts that will serve the purposes of the course. Two texts that may be recommended are

Irwin Miller, Marylees Miller, (2003), John E. Freund's Mathematical Statistics with Applications, 7th Edition, Paperback, 624 pages ISBN13: 9780131246461, ISBN10: 0131246461

Larsen, R.J. & M.L. Marx, (2005), An Introduction to Mathematical Statistics and Its Applications (4th edition), Prentice Hall, paperback, 928 pages, ISBN 0131867938

An enduring classic is

Hoel, P.G., (1984,) Introduction to Mathematical Statistics: John Wiley & Sons; 5th Edition, ISBN-10 0471890456 ISBN-13: 978-0471890454

CALCULATOR

Calculator should not be needed in answering the numerical questions in the exercises and the exams. Students are permitted to bring their own non-programmable calculator to the exams.

WHERE TO GO FOR HELP

Students are encouraged to ask questions in the lectures and seminars. Problems relating to the course per se can be discussed during the lecturer's office hours.

MODULE CONTENTS

1. ***Events and their probabilities***
2. ***Random variables and their distributions***
3. ***Discrete random variables***
4. ***Continuous random variables***
5. ***Expectation***
6. ***Sampling Theory***
7. ***Hypothesis Testing and Confidence Intervals***
8. ***Linear Regression***

EXERCISES/PROBLEM SHEETS

Available from the websites at:-

http://www.le.ac.uk/users/dsgp1/

http://webspace.qmul.ac.uk/dsgpollock/