

**STAT6091: Index Numbers  
Module Outline 2018/2019  
Semester 2**

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This module outline should be read in conjunction with the Blackboard website for the module and the Degree Handbook for your degree programme. Degree Handbooks are available here:  
<https://www.southampton.ac.uk/studentservices/academic-life/faculty-handbooks.page>

## 1. Essential information

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### Times and Dates:

The module will take place between April 8 and 12, 2019

### Assignments and Assessments

100% coursework

## 2. Course content

### a) Aims of the Module

This module aims to:

provide an introduction to the theory and practice of price index numbers.

### b) Learning Outcomes

On successful completion of this course, you will be able to:

- understand the origins and basic features of axiomatic, economic and stochastic approaches to price index,
- apply the common elementary index formulae and the characteristic hedonic index method,
- assess the uncertainty associated with price index numbers calculated based on a sample of products,
- appreciate the fundamental challenges of price index based on scanner data and web scraping data.

### c) Key Skills

You will develop skills in:  
Statistical computing in R

#### d) Recommended Reading

IWGPS (2018). *Consumer Price Index Manual: Theory and Practice*. ILO.  
<http://www.ilo.org/public/english/bureau/stat/guides/cpi/index.htm>

#### e) Blackboard

When registered for the module, you should be enrolled automatically on the module's Blackboard course and you can log on at:

<http://blackboard.soton.ac.uk/>. If you do not have access to the site please let the module coordinator know.

The site contains all the relevant course materials. Hard copies of the slides and handouts for computer workshops will also be provided.

You should check in regularly to ensure you see all announcements and course materials. You will also need to submit your coursework to Turnitin through Blackboard (see section 3d below).

#### f) Timetable

All course lectures and computer workshops will take place in Building 39/2015. Coffee and tea will be available during the breaks in R.3025.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
10:00-11:00	Introduction Index Problem	Exercise	The Statistical Approach	Exercise	Big Data Price Index
11:00-11:15	Coffee	Coffee	Coffee	Coffee	
11:15-12:00	Basic Index Formulae	The Economic Approach	Exercise	Hedonic Methods	Big Data Price Index Coursework
12:00-13:00	Lunch	Lunch	Lunch	Lunch	
13:00-13:45	Exercise	The Economic Approach	Exercise	Hedonic Methods	
14:00-14:45	The Test Approach	Exercise	Index Number in Practice	Exercise	
14:45-15:00	Tea	Tea	Tea	Tea	
15:00-15:45	The Test Approach	The Statistical Approach	Index Number in Practice	Exercise	

This timetable is subject to change depending on class progress.

### 3. Assessment and Feedback

#### a) Assessment methods

The intended learning outcomes for the module will be assessed as follows:

100% coursework. The coursework assignment will be handed out at 11:30am on Friday April 12, 2019. The Lecturer will be available to answer your questions regarding the content.

The coursework shall be returned by **3pm May 17, 2019**.

### **b) Resit arrangements**

Students who require to resit this module will be assigned a new coursework in the supplementary examination period. You will be notified about the corresponding date by the School Office.

### **c) Feedback**

Formative and summative feedback are provided in the following ways:

- Informal verbal feedback will be given during lectures and tutorials for individual and group work. (You'll need to contribute regularly to group discussions to make the best use of this.)
- Informal written and verbal feedback are often provided by email or during office hours when we respond to queries about assessments, for example.
- Written feedback will be given on your assessed coursework, available via Blackboard. As per Faculty policy our aim is to get coursework back to students within 4 working weeks of submission. For this module that means that you can expect feedback by **June 14, 2019**. Bear in mind that if you hand in work late, your feedback may be delayed.
- Exam results are published only as a grade. Although individual feedback on examinations is not normally given, feedback on the strengths and weaknesses of the performance of the whole group which took an examination may be available via Blackboard.
- Students are entitled to view their scripts on request, your Student Office can advise on the process to be followed. You are only permitted to view the script to enable you to see how you can improve your future performance and no mark or other annotation on the script is negotiable or open to alteration. The absence of annotation on a script does not mean that it has not been marked.
- Feedback works two ways – we want to hear from you about any concerns you have and suggestions about how to improve modules. We do this through informal mid semester feedback, which can sometimes be used to make immediate improvements in module delivery, and through a formal questionnaire at the end of the module, which will benefit students taking it in subsequent years. In addition to these, informal feedback from you on how we are doing and what we could do better is welcome anytime.
- For further information about how your work is marked and moderated, university quality assurance processes etc., please visit the marking and feedback section in the University's quality handbook: [https://www.southampton.ac.uk/quality/assessment/framework/marking\\_and\\_feedback.page?](https://www.southampton.ac.uk/quality/assessment/framework/marking_and_feedback.page?)

For the feedback to be effective, it is important that you work with the feedback given and identify how you can improve your work in the future. Should you need further information about your work, get in touch with whoever marked the work.

#### **4. Grade Descriptors and Marking Criteria**

Social Statistics and Demography follow the standard the University grade descriptors available here:

[http://www.southampton.ac.uk/quality/assessment/framework/principles\\_and\\_definitions.page#assessment\\_descriptors](http://www.southampton.ac.uk/quality/assessment/framework/principles_and_definitions.page#assessment_descriptors) when marking assessed work. The marking criteria and/or marking rubric for each individual piece of assessment on this module will be made available on Blackboard and with the instructions for each assessment. Note that the rating given for each criterion is descriptive and does not necessarily relate in a direct numerical way to the mark achieved.

#### **5. Academic Integrity and Referencing**

The University places the highest importance on the maintenance of academic integrity and expects that all students will familiarise themselves with the Regulations Governing Academic Integrity available at:

<http://www.calendar.soton.ac.uk/sectionIV/academic-integrity-regs.html>

Procedures will be invoked to investigate suspected breaches of academic integrity when concerns are raised during the marking process or in connection with suspected cheating in examinations. We are aware that students may have experienced differing standards at other institutions (including those overseas) but it is essential that you take steps to ensure your full understanding of the standards expected at Southampton as significant penalties can be imposed if these standards are breached.

It is often helpful to discuss ideas and approaches to your work with your peers, and this is a good way to help you think through your own views. However, work submitted for assessment should always be entirely your own, except where clearly specified otherwise in the instructions for the assignment. In some instances working in groups will be required, and there may be occasions when work is submitted from the whole group rather than individuals. In these instances the instructions will make it clear how individual contributions to the joint work should be identified and will be assessed. If you are in any doubt, check with the person setting the assignment. If you have worked with others you should make sure that you acknowledge this in any declaration you make.

Please note that you are NOT permitted to discuss the assignment or to show any other student your written work or computer programmes or outputs.

Copying includes using another student's computer program, output or graphics.

A very useful set of interactive guides is available at <http://library.soton.ac.uk/sash/what-is-academic-integrity>. These aim to help you gain a better understanding of academic integrity and develop your skills so that your assessed work does not accidentally plagiarise the work of others.

### Referencing

There are many styles of referencing used in academic publications. Unless otherwise specified the style known as the Harvard system is preferred in our Faculty. Details about how to use the Harvard referencing system can be found through the following Hartley library link:

<http://library.soton.ac.uk/sash/referencing> or by downloading the guide from: [http://library.soton.ac.uk/ld.php?content\\_id=4660789](http://library.soton.ac.uk/ld.php?content_id=4660789).

If in doubt about what is required in any particular assignment, what referencing styles are appropriate etc., always ask. Your tutor or module coordinator will be able to point you in the direction of appropriate sources of advice and information.

Unfortunately, Academic integrity breaches sometimes occur. The regulations distinguish between two types of breaches of academic integrity: minor (first-time offences, "committed through inexperience or lack of understanding and ... limited in scope or their effect"), and major. The minor breaches are dealt with by individual markers, through the regular feedback process. However, everything that is not a minor breach, including all repeated cases, is a major one.

The major breaches are dealt with either by the Faculty Academic Integrity Officer or by an Academic Integrity panel, depending on the severity of the alleged breach. The outcomes from this process can vary with the maximum penalty that can be given the termination of the programme – **so please treat Academic Integrity seriously.**

## **6. Support and Troubleshooting**

If you find yourself experiencing any study skills difficulties contact the Academic Skills Hub, level 2 in the Hartley Library, Monday - Friday: 10:00 – 12:00 & 14:00 – 16:00. <http://library.soton.ac.uk/sash>

You can also access specialized study support from Enabling Services: [https://www.southampton.ac.uk/edusupport/study\\_support/index.page](https://www.southampton.ac.uk/edusupport/study_support/index.page) If you experience any specific difficulties with the content of the module, please contact the module coordinator.

If you are not satisfied with the response contact your Personal Academic Tutor or the Programme Coordinator Paul Smith ([P.A.Smith@soton.ac.uk](mailto:P.A.Smith@soton.ac.uk)) or Angela Luna-Hernandez ([A.Luna.Hernandez@soton.ac.uk](mailto:A.Luna.Hernandez@soton.ac.uk)).

If you have a major difficulty during the course, such as a health problem that prevents you from attending lectures or seriously interferes with your work, you should make sure to discuss this with your Personal Academic Tutor.

## 7. Prerequisites

Please make sure that you familiarise yourself with the basic algebra and linear algebra skills that are necessary to complete the course. Revisit the MOffStat/MDataGov Introductory Module and STAT6093/STAT6095 if needed. You will struggle otherwise, which can create problems also for the others.

Since computer workshops will be used to enhance your learning outcomes, basic familiarity with R and RStudio will be essential. R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. RStudio makes R easier to use. It includes an editor, debugging & visualisation tools.

To download R and numerous packages developed for R, please visit <https://www.r-project.org/>

To download RStudio, please

visit <https://www.rstudio.com/products/rstudio/download/>

You should be familiar with the basic operations such as:

- open and store a file containing R codes
- how to get online help about R
- simple commands for assignment, routing, loop, etc.
- input/output functions scan, read.table, cat, print, etc.
- graphic functions plot, hist, etc.
- program and execute an R function

There are many free R tutorials available online, such as

<https://www.statmethods.net/r-tutorial/index.html>