# BSc (Hons) Econometrics and Quantitative Finance (F/T) – SH303

### 1. Objectives

This course will appeal to the mathematically minded. This degree provides students with the analytical and discursive skills of a well-trained economist with a focus on econometric and quantitative finance analysis. Market research, management services and government economic and statistical services are obvious fields of employment, along with banking and other financial institutions.

### 2. General Entry Requirements

In accordance with the University General Entry Requirements for admission to undergraduate degree Programmes.

### **3. Programme Requirements**

Credit in Mathematics and English at 'O' Level and At least a B in Mathematics at HSC Advanced Level

### 4. **Programme Duration**

| -       | Normal  | Maximum |
|---------|---------|---------|
| Degree: | 3 years | 5 years |

### 5. Minimum Credits Required for Degree Award – 103

Breakdown as follows:

|        | Credits from        |              |           |      |
|--------|---------------------|--------------|-----------|------|
|        | Core Taught Modules | Dissertation | Electives | GEMS |
| Degree | 78                  | 10           | 9         | 6    |

| Modules                          | Credits |
|----------------------------------|---------|
| Core                             |         |
| Economics                        | 69      |
| Statistics                       | 6       |
| Computer Science and Engineering | 3       |
| Dissertation in Economics        | 10      |
| Electives                        |         |
| Accounting                       | 3       |
| Economics                        | 6       |
| GEMS                             | 6       |
| Total                            | 103     |

### 6. Credits per Year

As per University Regulation.

#### 7. Assessment

Each module can either be taught in semester 1 only or in semester 2 only or throughout the two semesters.

Modules wholly taught in one semester are termed semester modules whereas modules taught throughout two semesters are termed yearly modules.

Each module will be assessed over 100 marks with details as follows (unless otherwise specified):

Assessment will be based on a written examination of 2 to 3-hour duration (normally a paper of 2 hour duration for modules carrying less or equal to three credits, 2½ hour paper for modules carrying 3.5-4.5 credits and 3 hour paper for modules carrying five-six credits) and on continuous assessment done during the semester or year.

Written examinations for all modules, whether taught in semester 1 or in semester 2 or both, will be carried out at the end of the academic year, except for GEMs and D.E. modules (unless otherwise stated).

The continuous assessment will count for 20-30% of the overall percentage mark of the module(s), except for a Programme where the structure makes for other specific provision(s).

Continuous assessment may be based on laboratory work, seminars and/or assignments and should include at least two (2) assignments/tests per module. There will be a compulsory class test for all modules taught in semester 1 at the end of semester 1 of the given academic year unless stated otherwise in the Programme Structure.

Special examinations (e.g. class tests) will be arranged at the end of semester 1 or semester 2 for exchange students who have registered only for one semester. In case of yearly modules, credits will be assigned on a pro-rata basis.

### 8. Submission Deadline for Dissertation

Final copy: Last week day of March of the Academic Year by 4.00 p.m at latest

### 9. List of Modules – BSc (Hons) Econometrics and Quantitative Finance

| Code          | Module Name                               | Hrs/Wk<br>L+P | Credits |
|---------------|---|---------------|---------|
| CORE MODULES  |   |               |         |
| ECON 1005Y(1) | Introduction to Economic Analysis         | 3+0           | 6       |
| ECON 1002Y(1) | Mathematics for Economists                | 3+0           | 6       |
| STAT 1001Y(1) | Statistics for Economists                 | 3+0           | 6       |
| ECON 1008Y(1) | Introduction to Econometrics Software     | 3+0           | 6       |
| ECON 1212(1)  | Principles of Financial eEconomics        | 3+0           | 3       |
| CSE 1010e(1)  | Introduction to Information Technology    | O.E.          | 3       |
| ECON 2001Y(3) | Microeconomic Theory                      | 3+0           | 6       |
| ECON 2002Y(3) | Macroeconomic Theory                      | 3+0           | 6       |
| ECON 2018Y(3) | Principles of Quantitative Finance        | 3+0           | 6       |
| ECON 2019Y(3) | Investment Analysis and Management        | 3+0           | 6       |
| ECON 2003Y(3) | Principles of Econometrics                | 3+0           | 6       |
| ECON 3002Y(5) | Times Series Econometrics                 | 3+0           | 6       |
| ECON 3017Y(5) | Cross Section and Panel Data Econometrics | 3+0           | 6       |
| ECON 3018Y(5) | Advanced Quantitative Finance             | 3+0           | 6       |
| ECON 3000(5)  | Dissertation                              | -             | 10      |

#### **ELECTIVES**

| ECON 2004Y(3) | Money, Banking and Finance        | 3+0 | 6 |
|---------------|-----------------------------------|-----|---|
| ECON 2020Y(3) | Experimental Methods in Economics | 3+0 | 6 |
| ECON 3262(5)  | Public Finance                    | 3+0 | 3 |
| ECON 3231(5)  | International Finance             | 3+0 | 3 |
| ECON 3181(5)  | Risk Management                   | 3+0 | 3 |
| ECON 3131(5)  | Investment Analysis               | 3+0 | 3 |
| <u>GEMS</u>   |                                   | 6   |   |

### Note:

ECON 3017Y(5)

1. Offering of electives would be subject to availability of resources and critical mass. The Department reserves the right to offer additional electives).

2. Students will have to complete a minimum of two (2) General Education Module (GEMs) over the three years of Programme of Studies. List of GEMs will be posted on Faculty Notice Boards at the start of every semester

## **10.** Programme Plan - BSc (Hons) Econometrics and Quantitative Finance

| <u>YEAR 1</u> |  |               |          |
|---------------|--|---------------|----------|
| Code          | Module Name                            | Hrs/Wk<br>L+P | Credits  |
| CORE          |  |               |          |
| ECON 1005Y(1) | Introduction to Economic Analysis      | 3+0           | 6        |
| ECON 1002Y(1) | Mathematics for Economists             | 3+0           | 6        |
| ECON 1008Y(1) | Introduction to Econometrics Software  | 3+0           | 6        |
| STAT 1001Y(1) | Statistics for Economists              | 3+0           | 6        |
| CSE 1010e(1)  | Introduction to Information Technology | O.E.          | 3        |
| ECON 1212(1)  | Principles of Financial Economics      | 3+0           | 3        |
| GEMS          |  |               | 6        |
|               | <u>YEAR 2</u>                          |               |          |
| Code          | Module Name                            | Hrs/Wk<br>L+P | Credits  |
| CORE          |  |               |          |
| ECON 2001Y(3) | Microeconomic Theory                   | 3+0           | 6        |
| ECON 2002Y(3) | Macroeconomic Theory                   | 3+0           | 6        |
| ECON 2018Y(3) | Principles of Quantitative Finance     | 3+0           | 6        |
| ECON 2019Y(3) | Investment Analysis and Management     | 3+0           | 6        |
| ECON 2003Y(3) | Principles of Econometrics             | 3+0           | 6        |
| ELECTIVES     | CHOOSE ONE                             |               |          |
| ECON 2004Y(3) | Money, Banking and Finance             | 3+0           | 6        |
| ECON 2020Y(3) | Experimental Methods in Economics      | 3+0           | 6        |
|               | <u>YEAR 3</u>                          |               |          |
| Code          | Module Name                            | Hrs/Wk        | Credits  |
| CORE          |  | L+P           |          |
| ECON 3002Y(5) | Times Series Econometrics              | 3+0           | 6        |
|               |  | 2 0           | <i>(</i> |

#### Times Series Econometrics Cross Section and Panel Data Econometrics

3+0

6

| ECON 3018Y(5)<br>ECON 3000(5)                | Advanced Quantitative Finance Dissertation                 | 3+0               | 6<br>10     |
|--|--|-------------------|-------------|
| ELECTIVES                                    | CHOOSE ONE   |                   |             |
| ECON 3262(5)<br>ECON 3231(5)<br>ECON 3181(5) | Public Finance<br>International Finance<br>Risk Management | 3+0<br>3+0<br>3+0 | 3<br>3<br>3 |