

International Foundation Programme

January Intake: Science

2017-18

## **Coding**

## **Study Guide**

**TABLE OF CONTENTS**

**Page**

**1. General Information**

**2. Course Outline**

**3. Essential Reading**

**4. Recommended Reading**

**Module tutors:**

**Sheriffo Ceesay – sc306@st.andrews.ac.uk**

**Nnamdi Ewke-Ewke – nnee@st-andrews.ac.uk**

**-**

**1.0 General Information**

1.1 Introduction

This is a semester-long program designed for students who join the “International Foundation Programme January Intake: Science” course and who, upon its completion, hope to enter the first year of B.Sc. (Hons) Computer Science as offered by the School of Computer. During this program, students will learn some vital skills related to computer science and programming, which will aid them in a smooth transition to Computer Science modules CS1002 (and optionally CS1005) offered at the first-year level. Students will achieve this by gaining the necessary skills to develop their own website using HTML, CSS, JavaScript, PHP and framework like JQuery. Students will be assessed in accordance with standards decided jointly by English Language Teaching (ELT) and Computer Science (CS).

**1.2 Objectives**

**\*** To provide students with a flavour of what it means to learn Computer Science

\* To provide students with basic web design and web development skills

**\*** To introduce students to programming languages and frameworks

**1.3 Learning Outcomes**

After completion of this course, students should be able to:

\* Understand how the Internet, the World Wide Web and individual websites work

\* Design basic web pages and websites with interactive static content

\* Read, understand, and write code using basic HTML, CSS and JavaScript syntaxes

**1.4 Teaching and Learning**

Module content will be delivered and reinforced as follows:

\* 16 x 2 hour lectures - these will take the form of traditional presentation based lecture delivery and “show and tell” style live demonstrations

\* 16 x 1 hour tutorials –these will take the form of small group tutorials, focussed group discussions, question and answer sessions, and small group based work

\* 16 x 3 hour lab sessions – these will take the form of a working session where students will (individually and) continually develop own website to be presented at the end of the course

**1.5 Assessment**

4 Practicals

Presentation of website and coding of website

MCQ exam

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of assessment** | **Dates of assessment** |  | **Percentage of the final grade for the module** |
| 3 Practicals | 29 January 2018  19 February 2018  02 April 2018 | 33.33%  33.33%  33.33% | 20% |
| Presentation of website  Coding of website | w/b 14 May 2018 | 25%  75% | 40% |
| MCQ exam | 21 May to 01 June 2018 |  | 40% |

1.6 Regulations

\* Attendance at all classes is compulsory

\* Students are required to complete all elements of assessed work.

**2.0 Course Outline**

1. Introduction to the Web
   1. Computers
   2. Computer Networks
   3. The World Wide Web (WWW)
2. Introduction to Web Programming
   1. Web Sites and Web Pages
   2. Static, Interactive and Dynamic Web Pages
   3. Elements of a Web Page
   4. Designing Web Pages and Sites
3. Hyper Text Mark-up Language (HTML)
   1. Structure of a Web Page
   2. Essential Tags & Attributes
   3. History of HTML Approaches
   4. Variations & Optional Features
4. Cascading Style Sheets (CSS)
   1. Attributes
   2. Selectors
   3. Integrating CSS Into HTML
   4. Document Path Formats
5. Web Development Frameworks (Bootstrap)
   1. Cross-Browser Compatibility
   2. Tabular Formatting
   3. Responsive Formatting
6. JavaScript with JQuery
   1. Language Basics
   2. Event Listeners
   3. Using Selectors
   4. A Few Commands
7. Web Hosting
   1. Internet Protocol (IP) Basics
   2. Internationalisation
   3. Hosting and Mirrors
8. Beyond Static Sites
   1. Dynamic Websites
   2. Web 2.0
   3. Cloud hosting

# **3.0 Essential Reading**

*Note: we do not expect you to have explored the sites in sections 3.0 or 4.0 in any detail before starting the course. You will instead be expected to use them as reference material during it.*

<http://www.w3schools.com/>

# **4.0 Recommended additional reading**

<http://getbootstrap.com/>

<https://jquery.com/>

<https://github.com/>