1. **Title of the module**

COMP8460 (CO846) - Cloud Computing

1. **School or partner institution which will be responsible for management of the module**

School of Computing

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 7

1. **The number of credits and the ECTS value which the module represents**

15 credits (7.5 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn

1. **Prerequisite and co-requisite modules**

Prior knowledge of networks, security, and computer operating systems equivalent to an undergraduate degree in Computer Science or a closely related subject.

1. **The programmes of study to which the module contributes**

Portfolio of Taught Postgraduate Programmes in Computing

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**

8.1 Understand the concepts of web services and how service-oriented architectures are driving the virtualisation of grid/cloud resources.

8.2 Have an understanding of grid computing technology and its relation with cloud computing.

8.3 Understand virtualisation technologies and how they are used in cloud computing.

8.4 Be familiar with the general details of current cloud computing technologies.

8.5 Have an understanding of security issues in grid/cloud environments.

8.6 Be able to use a range of open source tools (hadoop etc.) in the creation of a cloud infrastructure and perform basic operations in existing grid/cloud infrastructures.

1. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**

9.1 Identify, analyse and formulate criteria and specifications appropriate to a given problem;

9.2 Manage their own time effectively, individually or in groups, and work effectively as a member of a team;

9.3 Communicate technical issues with specialist and non-specialist audiences;

1. **A synopsis of the curriculum**

Cloud computing describes a new supplement, consumption, and delivery model for IT services based on the Internet, and it typically involves over-the-Internet provision of dynamically scalable and often virtualized resources. It is a by-product and consequence of the ease-of-access to remote computing sites provided by the Internet. This frequently takes the form of web-based tools or applications that users can access and use through a web browser as if it were a program installed locally on their own computer.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

M. Armbrust et al., "Above the Clouds: A Berkeley View of Cloud Computing", UC Berkley, 2009

T. White, “Hadoop: The Definitive Guide”, O'Reilly, 2009, ISBN:978-0596521974

J. Varia, "Cloud Architectures", Amazon Web Services White Paper.

D. Sanderson, “Programming Google App Engine”, O'Reilly, 2009, ISBN:978-0596522728

S.Song, K.Dong Ryu D.Silva, IBM, “Blue Eyes: Scalable and Reliable System Management for Cloud Computing”, 2009

1. **Learning and teaching methods**

Total contact hours: 27

Private study hours: 123

Total study hours: 150

1. **Assessment methods**
   1. Main assessment methods

Individual report (20%)

Application development, undertaken and assessed on group basis (30%)

Examination (50%)

13.2 Reassessment methods

Like for like.

1. **Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 9.1 | 9.2 | 9.3 |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |
| Lectures | x | x | x | x | x |  | x |  |  |
| Classes | x | x | x | x | x | x | x | x | x |
| Private study | x | x | x | x | x | x | x | x |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |
| Report | x | x | x | x | x |  | x | x | x |
| Application development | x | x | x | x | x | x | x | x |  |
| Examination | x | x | x | x | x |  | x |  |  |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury and Medway

1. **Internationalisation**

Internationalisation is well incorporated in this module in terms of exchanging subject content, assessment tasks, teaching methods/activities and support activities with our international partners.

**FACULTIES SUPPORT OFFICE USE ONLY**

**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 06/12/2018 | Minor | September 2019 | 16 |  |
| 16/09/2019 | Minor | September 2019 | 17 |  |

Revised FSO Jan 2018