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Module Descriptor

Introduction to Cloud Computing (Computing and Mathematics)

Introduction to Cloud Computing (A13986)

Short Title: Intro to Cloud Computing
Department: Computing and Mathematics
Credits: 5 **Level:** Intermediate

Description of Module / Aims

This module introduces students to the capabilities of cloud computing. Basic concepts of cloud computing are covered and students carry out a series of practical exercises with cloud computing technologies and services.

Programmes

		stage/semester/status
COMP-0625	BSc (Hons) in Applied Computing (International) (WD_KACCM_BI)	2 / 4 / M
COMP-0625	BSc (Hons) in Applied Computing (WD_KACCM_B)	1 / 2 / E
COMP-0625	BSc (Hons) in Applied Computing (WD_KCOMP_B)	1 / 2 / E
COMP-0625	BSc (Hons) in Computer Science (WD_KCMSC_B)	1 / 2 / E
COMP-0625	BSc (Hons) in Software Engineering (WD_KDEVP_BI)	3 / 5 / M
COMP-0625	BSc in Applied Computing (WD_KCOMP_D)	1 / 2 / M
COMP-0625	BSc in Information Technology (WD_KINFT_D)	1 / 2 / M

Indicative Content

- Basic concepts of cloud computing
- Cloud technologies
- Cloud usage scenarios
- Using and integrating cloud services
- Other issues: privacy, security, economics and cost-benefit analysis

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Communicate the evolution of cloud computing.
2. Appraise the main cloud computing service models and deployment models that are in widespread use.
3. Illustrate the operation of a selection of leading cloud technologies.
4. Deploy an application that integrates a selection of cloud services using a popular cloud platform (e.g. IBM Bluemix).
5. Explore cloud computing services and technologies from the perspectives of security, privacy and cost.

Learning and Teaching Methods

- This module will be presented by a combination of lectures and practicals.
- The lectures will be used to introduce new topics and their related concepts.
- The practical element will involve laboratory exercises using a popular application deployment platform (e.g. IBM Bluemix).

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	24	12
Practical	24	12
Independent Learning	87	111

Assessment Methods

	Weighting	Outcomes Assessed
Continuous Assessment	100%	
Practical	100%	1,2,3,4,5

Assessment Criteria

<40%: Unable to explain key cloud computing concepts, technologies and services. Unable to effectively use a cloud platform.

40%–49%: Able to explain key cloud computing concepts, technologies and services and carry out basic analysis. Can deploy an application to a popular cloud platform.

50%–59%: In addition, can explain in substantial technical detail key cloud computing technologies and services. Can deploy a moderately sophisticated application to a popular cloud platform.

60%–69%: In addition, can deploy a complex application to a popular cloud platform.

70%–100%: All of the above to an excellent level. Can go beyond the basic practical specification and demonstrate competence with other services.

Essential Material(s)

- "IBM Bluemix." http://www.ibm.com/cloud-computing/bluemix/

Supplementary Material(s)

- Rafaels, R. *Cloud Computing: From Beginning to End.* 1st. New York: CreateSpace Independent Publishing Platform, 2015.

Requested Resources

- Computer Lab: BYOD Lab