

Module Specification

Module Summary Information

1	Module Title	Software Defined Network Engineering
2	Module Credits	20
3	Module Level	7
4	Module Code	CMP7157

5	Module Overview
Software Defined Networking (SDN) has emerged as the next major evolution in switch design and network management. This module is concerned with the theoretical and practical aspects of the SDN concept and how it is applied to data networks. You will develop knowledge in the role of the data and control planes, and the advantages / implications of separating these, as found within SDN. This module will help the students to assess the current state-of-art of this area and design/construct implementable solutions. The module consists of: • Subject specific lectures/laboratory sessions to introduce knowledge and skills relevant to Software Defined Networking (including a basis of core programming concepts). • Practical laboratory sessions to provide an opportunity to both apply knowledge gained through pre/post session activities and lectures, and also to investigate and develop the skills necessary to solve network based programming problems. • A global view of the role of SDN, and open standards in the expansion and interoperability of networks. Relationship to programme philosophy: This module provides an opportunity for you to develop knowledge and skills, which will contribute to the acquisition of key BCU graduate attributes; creative problem solvers, global outlook, enterprising, professional and work ready. In the context of Software Defined Networking and at this academic level, this means an ability to: respond to a critical brief to find practical solutions to problems; evaluate and respond to the opportunities and challenges of interdisciplinary approaches to the realisation of a task; respond flexibly and imaginatively to a set, or group-determined brief within a fixed timescale.	

6	Indicative Content
Software Defined Networking protocols Network design for SDN network Automation and network management policies	

7	Module Learning Outcomes	
	On successful completion of the module, students will be able to:	
	1	Critically assess SDN solutions in both the industry and research domains.
	2	Design an SDN based network for a given system, identifying appropriate components and network structure.
	3	Implement an appropriate SDN controller to manage device configuration, and any other relevant network policies, within an SDN network.

8	Module Assessment		
Learning Outcome			
	Coursework	Exam	In-Person
1, 2	X		
3			X

9	Breakdown Learning and Teaching Activities	
Learning Activities		Hours
Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable		48
Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE		90
Private Study (PS) includes preparation for exams		62
Total Study Hours:		200