

Unit of Study: BIS2001 IT Infrastructure and Networking

Overview:

This unit deals with hardware and system software components needed to run IT applications. It introduces how infrastructure components work on an architectural level using building blocks to describe the infrastructure model. This unit focus on networking and data communications as a major part of IT infrastructure model. Describing the network models to be described using OSI and TCP layered models with the focus on Physical, data link, network, transport, and application layers. Topics covered include IT infrastructure components and model; communication media; media access control; IP network addressing and routing; and the network design using traditional and building block. Cloud computing and virtualization are introduced with the characteristics and benefits. This unit also covers security threats and network controls. This unit also draw focus on improving the management of networks and information systems, as well as implications for the management of the organization.

Course(s)	Bachelor of Business Information Systems Bachelor of Information Technology
Credit Points	6 credit points
Duration	12 weeks (10 teaching weeks; 1 revision week; 1 final assessment week)
Level	Undergraduate Intermediate
Student Workload	Students should expect to spend approximately 10 hours per week over 12 weeks (totalling approximately 120 hours) on learning activities for this unit.
Mode(s) of Delivery	On campus, Blended
Pre-Requisites	BIS1001 Foundations of Information Systems
Unit Coordinator	As per current timetable
Contact Information	Consultation: 1 hour scheduled session

Unit Learning Outcomes

On successful completion of this unit, students will be able to:

- ULO-1: Demonstrate an understanding of layered networking models, computer network architectures and components.
- ULO-2: Design and plan IP networks and IT infrastructure solutions for businesses, allowing scaling of applications.
- ULO-3: Implement moderately complex networks with industry standard technologies like CISCO routers and switches.
- ULO-4: Solve data communication and networking problems using rigorous analysis techniques.
- ULO-5: Appraise different types of network security devices and how they can be used.

Weekly Schedule

Detailed information for each week's activities can be found on Unit's Weekly Modules in Canvas.

Week	Topic
Week 1	Architecture and Infrastructure
Week 2	IT Infrastructure Components and Model
Week 3	Physical and Data Link Layer
Week 4	Network and Transport Layers
Week 5	IP Network Addressing
Week 6	Routing
Week 7	Network Design
Week 8	Cloud and Virtualization
Week 9	Network Security-1
Week 10	Network Security-2
Week 11	REVISION
Week 12	FINAL ASSESSMENT

Assessments





1. All assessments are compulsory.
2. To pass the unit students must:
 - achieve a total of 50% or more of marks offered; and
 - pass all individual invigilated assessments; and
 - have attempted all assessments.

Where one or more of these requirements are not met, the Board of Examiners will consider a student's overall progress towards meeting the unit learning outcomes and any special circumstances before reaching a decision.

3. The Board of Examiners may grant a supplementary assessment where a student:
 - achieves a total of 45% or more; and
 - has passed all individual invigilated assessments in the unit; and
 - has attempted all assessments; and
 - has a recommendation for supplementary assessment by the Unit Coordinator and the Head of Discipline.

Where one or more of these requirements are not met, the Board of Examiners will consider a student's overall progress towards meeting the unit learning outcomes and any special circumstances before reaching a decision. Attendance and engagement in class will be considered.

4. APIC awards common result grades as set out in the [Award of Grade Policy](#).
5. Detailed information for each assessment can be found on the Unit's Home Page and in the Assessment Brief.

Assessment Task	Type	Weighting	Length	Due	ULO's Assessed
Assessment 1: Case Study-1 Study and analyse the IT infrastructure hardware, software and networking requirements for a case study organisation.	Group 	30%	2500 words	Week 5	ULO-1 ULO-2
Assessment 2: Laboratory Practicum Weekly exercises assess students' ability to understand theoretical materials.	Individual  Invigilated 	40%	equiv. 3000 words	Weeks 2, 4, 6, 8, 10	ULO-1 ULO-2 ULO-3 ULO-4 ULO-5
Assessment 3: Case Study-2 Network design, IP address and routing protocol selection and configuration.	Individual 	30%	2000 words	Week 12	ULO-2 ULO-3 ULO-4 ULO-5

equiv. – equivalent word count based on the Assessment Load Equivalence Guide. It means this assessment is equivalent to the normally expected time requirement for a written submission containing the specified number of words.

Course Reserve

Course Reserve includes all required resources and reading material for the unit of study. You can access Course Reserve via [APIC Library](#) or via the Course Reserve link on the unit's homepage.

Prescribed text(s):

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Fitzgerald, J, Dennis, A & Durcikova, A 2020, *Business data communications and networking*, 14th edn, John Wiley & Sons.

Recommended Text:

Fitzgerald, J, Dennis, A & Durcikova, A 2017, *Business data communications and networking*, 13thedn, Wiley, Australia.

Other Recommended Resources:

Cisco Networking Academy: <https://www.netacad.com/>

Harvard Business Review: www.hbr.org

Academic integrity

Ethical conduct and academic integrity and honesty are fundamental to the mission of APIC and academic misconduct will not be tolerated by the College. It is the responsibility of every student to make sure that they understand what constitutes academic misconduct and to refrain from engaging in it. Please refer to APIC's [Academic Integrity Policy](#) for further details.

Other Important Information and Links

<p>Special consideration</p> <p>If your academic work is impacted by significant documented illness, hardship, or other adverse circumstances beyond your control, you may make an application for Special Consideration. Please refer to the Assessment Policy for further details.</p>	<p>Late submission</p> <p>Penalties apply when work is submitted after the due date without approval. Please refer to the Assessment Policy for information about late submission.</p>
<p>Assessment appeals</p> <p>If you are concerned about a mark you have received for an assessment or final grade, you may apply to formally appeal the grade. Please see the Assessment Policy for further details.</p>	<p>Award of grades</p> <p>APIC awards common result grades, set out in the Award of Grade Policy.</p>
<p>Expectations of student conduct</p> <p>Students are expected to conduct themselves in a manner that is consistent with a safe and respectful study environment. More information can be found in the Student Code of Conduct.</p>	<p>Study resources</p> <p>APIC Library and Student Learning Support resources and services can be accessed via the Student Lounge or your Dashboard on the OLS (Canvas).</p>
<p>Student Services</p> <p>The Student Services team provides administrative support for students and handles enquiries about enrolment, timetables, important dates and submitting forms. More information can be found on the Student Services page on the OLS (Canvas).</p>	<p>Key dates</p> <p>Key dates through the academic year, including teaching periods, census, payment deadlines and exams can be found on the Academic Calendar section of the APIC website.</p>

Changes and Updates to the Unit of Study Guide

This Unit of Study Guide may be updated and amended from time to time. Students will be notified of any changes to the unit via the Online Learning System (Canvas) space for the unit.

This Unit of Study Guide was last modified on 18th of September 2023.