Welcome to South Metropolitan TAFE
Course Title
Associate Degree of Networking
Course Code
H417
CRICOS Course Code
092638M
Department
Higher Education
Course Information
1800 001 001

Duration
Full time students will complete the course in 2 years studying 4 units per semester. Part time students should plan to complete the course in 4 years and will normally complete 2 units per semester. International students must maintain a full time study load.

Units
Students must complete the sixteen core subjects to complete the course.

Credit points
Each unit is allocated 3 credit points. A total of 48 credit points is required to complete the Associate Degree.

Delivery site
Thornlie campus.

Delivery mode
This course comprises a mix of lectures, tutorials, practical sessions and independent study. Online teaching and support is provided using South Metropolitan TAFE’s online learning environment known as E-Campus. Onshore international students must study no more than 25% of their studies online.

There are usually 3.5 hours of timetabled delivery per unit per week. Students are expected to attend all timetabled lectures, tutorials and workshops. Students are expected to undertake a further 6.5 hours study per unit per week in their own time.

Delivery period
Two semesters a year. Each semester comprises 14 weeks of study plus two examination weeks.

Intakes
February and July.

INTRODUCTION
Associate Degree of Networking
This course provides introductory preparation for the field of information technology with a focus on computer networking. Through a combination of theory and labs, the program emphasizes application of knowledge to the specifications and requirements of the Network Engineering and computer support industry, and teaches students to strive towards providing and enhancing a productive business environment.

Graduates will be able to apply their technical and theoretical knowledge in the field of Information technology to undertake professional work in the IT industry or as a pathway for further education.

Strong industry demand for an Associate Degree of Networking (ADN) was established through regular discussions with a range of local small and medium sized ICT businesses. These businesses require graduates with advanced skills in network design and management, security, server, database, project management and leadership. Employment advertisements also indicate a significant demand for Information Technology vendor certifications.

A graduate of the Associate Degree of Networking will:

1. Demonstrate broad technical and theoretical knowledge in the field of Information Technology with some specific knowledge in Networking and Security; Server Operating Systems; Databases; Systems Analysis and Project Management.
2. Demonstrate a sound knowledge of the concepts and theory associated with networking and security.
3. Develop conceptual and theoretical understanding of Information Technology practices with a particular in-depth understanding and application in the networking industry.
4. An ability to effectively communicate and present knowledge and ideas as an individual and in a multicultural team.
5. Cognitive skills to identify analyse and evaluate Information Technology data from a range of sources.
6. Cognitive, analytical and creative thinking skills to demonstrate a broad understanding and ability to communicate Information Technology concepts in some depth.
7. An ability to use initiative and judgement to solve problems, plan and identify solutions in Information Technology practice.
8. An ability to adapt and apply fundamental Information Technology principles, concepts and techniques to familiar and unfamiliar contextual situations in the field of Networking.
9. The capacity to practice professionally and an ability to exercise ethical responsibility as an individual or within teams, and recognise the need to engage in lifelong learning within the field of Information Technology.
WORK INTEGRATED LEARNING

You will be exposed to industry practice through guest speakers, site visits and exposure to the latest industry practice and are encouraged through the use of assignments and case studies, to critically evaluate current practice and its applicability to their own practice development.

To support your learning you may be engaged in up to 280 hours of work integrated learning activities on-campus in work simulated environments or off campus in industry.

EMPLOYMENT OUTCOMES

Associate Degree of Networking graduates will have the opportunity to work in roles within business and enterprise. Roles available to the graduate include computer networking associate, internet or intranet network administrator, network professional or analyst or a junior network design engineer.

Employment opportunities with further experience and qualifications

Employment opportunities with further experience and qualifications include computer networking engineer, internet/intranet network administrator, network analyst, network design engineer, network capacity planner, network solutions architect, data centre engineer, data centre administrator, systems engineer and systems analyst.

Further study outcomes

On completion of the Associate Degree of Networking, graduates will be able to take advantage of articulated pathways to university and continue into various Information Technology Bachelor degrees.

RESPONSIBILITY TO STUDENTS

South Metropolitan TAFE will provide you with:

- Accurate and up-to-date information on the course: content, requirements, outcomes, criteria and timelines for assessment
- Lecturing staff that are appropriately skilled and committed to fulfilling our mission to deliver practical relevant courses
- Feedback on your progress and ways in which you can maximise your study success
- Access to information and resources that support your learning
- Opportunities for you to provide feedback on your experience at South Metropolitan TAFE along with suggestions for improvement
- Treat you equally regardless of gender, marital status, pregnancy, family responsibility or family status, sexual orientation, race, religious or political conviction, impairment or age
- Facilitate an atmosphere that encourages learning and that is free from harassment or discrimination.

All Higher Education courses at South Metropolitan TAFE are approved and accredited by the Tertiary Education Quality and Standards Agency (TEQSA), Australia’s independent national regulator of the higher education sector. TEQSA regulates providers of higher education in Australia under legislation aimed at protecting the interests of Australian domestic students studying in Australia and overseas, as well as international students studying in Australia.
## COURSE STRUCTURE

<table>
<thead>
<tr>
<th>#</th>
<th>Subject Code</th>
<th>Subject Title</th>
<th>Credit Points</th>
<th>Contact Hours</th>
<th>EFTSL**</th>
<th>Pre-requisite</th>
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<tr>
<td>1</td>
<td>HBU125</td>
<td>Professional Communication *</td>
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### Diploma of Computer Science

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<td>0.125</td>
<td>HIT232 - Routing and Switching</td>
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<tr>
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<td>0.125</td>
<td>HIT232 - Routing and Switching</td>
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<tr>
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<td>3</td>
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<td>0.125</td>
<td>HIT233 - Server Administration</td>
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* Denotes subjects taken from the Diploma of Business

# Denotes subjects taken from the Diploma of Computer Science

** Equivalent Full Time Study Load
SUBJECT SYNOPSES

Professional Communication (HBU125)
This subject is designed to assist students to enhance their ability to effectively communicate in a professional business environment. More specifically, this foundation subject assists students to evaluate academic literature in various business contexts, to communicate effectively as an individual or within groups and to apply ethical practices in different business contexts. The subject has a focus on personal and career development and an analysis of the employability skills sought by contemporary organisations.

Introduction to Networking (HIT111)
This subject introduces students to the basics of Local Area Networking or the "LAN" from the enterprise point of view. Whilst there are similarities to home networking, the terminology and way technologies used to deal with large scale, busy networks is quite different to the home network environment that most students will be familiar with. This subject is an introduction to the world of networking.

Modern Operating Systems (HIT112)
Building and maintaining computers requires an in-depth knowledge of how they work, much more so than if you are a user. Topics include operating system structure and services, multi-programming processes, CPU scheduling, memory management, device management, synchronisation, deadlocks, virtual memory and file systems. This subject provides the tools for a student to analyse operating system tasks and problems, construct appropriate solutions and evaluate the result of applying the chosen solution them using common including the application of scripting language programs to solve basic operating system challenges.

Programming Principles (HIT113)
Having knowledge, understanding and the ability to apply programming principles to solve problems is an important attribute required of computing professionals.

In this subject you will acquire the knowledge, understanding and ability to apply programming skills to solve problems.

Key technologies you will experience include html5/css3, java and JavaScript. Practical work will involve the design and implementation of algorithms using procedural programming and includes an introduction to Object Oriented technologies.

Network Infrastructure (HIT120)
This subject builds on the basic LAN technologies discussed in "Introduction to Networking" into the wider field of internetworking. We will be examining and working with a group of more complex protocols that govern how computers communicate across groups of networks, the largest and most well-known example of which is the "Internet".

Server Network Infrastructure (HIT121)
This subject will introduce you to some very important server networking concepts and technologies, such as: DNS, DHCP, DFS, and EFS. You will also be exposed further to IP addressing and system security. Together, these concepts and tools will provide you with a conceptual framework to enable you to work confidently with more advanced networking and server technologies that you will encounter in the next two server subjects you will be studying.

One of the primary aims of this subject is to enable you to develop cognitive, analytical and creative skills associated with networking and security. Also, this subject will emphasise practical skills development in configuring, testing and troubleshooting Windows Server 2012 systems.

Computer Architecture (HIT122)
This subject is an introduction to the fundamentals of computer system design and architecture. Throughout the subject relationships between the computer hardware and software will be examined, so that students can understand the factors that affect computer performance.

The subject provides knowledge of computer structure and operation including; memory hierarchies, input/output processing, interconnects and assembly language instruction set.

The subject also introduces the fundamentals of computer math from hardware operations through to beginning maths and statistics to provide a basis for following studies.

Object Oriented Frameworks (HIT123)
This subject covers the major design process used in modern software development - treating the world as a group of objects that interact with each other and users. This technique is used in such diverse areas as game development, android and iOS mobile development etc.

You will develop software that uses the principles of object oriented development to model the real world as objects.

Systems Analysis and Design (HIT230)
Systems Analysis and Design examines the methods, tools and techniques used by business requirements in the analysis and design stages of software or system development. Students will investigate current business practices and tools for constructing system requirements that will enable them to build on their knowledge base and acquire the skills necessary for them to identify and document client needs and systems requirements, and to model data and additionally design functional processes.
Data Science (HIT231)
This subject prepares the student with the theory and skills to administer Relational Database Management Systems (RDBMSs) commonly used in business. This includes the knowledge to design, develop and maintain RDBMS’s using entity relationship modelling and normalisation. Database manipulation is via advanced Structured Query Language (SQL). Applied theory in a simulated complex business scenario based on an open tender process in a realistic scenario will enhance student skills and prepare them to undertake database tasks in the workplace.

Routing and Switching (HIT232)
This subject examines the LAN environment implemented using a VLAN infrastructure with related protocols. Related areas of Layer 3 switching and wireless networking are also studied.

Server Administration (HIT233)
This subject will give you hands-on instruction and practice administering Active Directory technologies in Windows Server 2012 and Windows Server 2012 R2.
You will learn the skills you need to better manage and protect data access and information, simplify deployment and management of your identity infrastructure, and provide more secure access to data. You will learn how to configure some of the key features in Active Directory such as Active Directory Domain Services (AD DS), Group Policy, Dynamic Access Control (DAC), Certificate Services, as well as learning to create and manage virtual networks using the Windows server 2012’s hypervisor, Hyper-V.

Project Management (HIT240)
This subject focuses on the methods and problems of managing and assuring the quality of projects. The subject reflects the role of individuals required to effectively initiate, plan, execute, monitor and control tasks and resources to successfully manage a project from start to finish. It gives you the skills to run projects in your work and personal life.

WAN Technologies (HIT241)
Wide Area Networking or the WAN uses different technologies than do Local Area Networks (LANs). This chapter introduces WAN standards, technologies, and purposes. It covers selecting the appropriate WAN technologies, services, and devices to meet the changing business requirements of an evolving enterprise. This course helps students develop an in-depth understanding the WAN for inter-connecting small and large networks.
Practical skills are developed using the industry standard Cisco Network Academy curriculum with enterprise class Cisco routers and switches.

Network Security (HIT242)
This subject focuses on the security of the network. In a modern business or enterprise environment, security is essential to protect, control and use information to its fullest extent – a network security system typically relies on layers of protection consisting of multiple components that includes networking monitoring, security software, and hardware and appliances all working together to increase the overall security of the computer network. You will cement and extend your knowledge of security using the network throughout this unit.

Virtualisation and Cloud Services (HIT243)
The cloud is one of the defining technologies of modern information technology practise. In this unit students will learn about the fundamental principles of cloud computing and its related paradigms, the concepts of virtualization technologies along with the architectural models of cloud computing. Prominent cloud computing technologies that are available in the marketplace will be studied and analysed. This subject provides an overview of a number of technologies used to support cloud services before examining the Microsoft Azure package of technologies in detail. The skills component of this subject is aligned to the Microsoft certifications and prepares students for the Infrastructure and Networking part of the Microsoft certification exam 70-534.
ADMISSION AND ENROLMENT REQUIREMENTS

To enter a higher education qualification at South Metropolitan TAFE, students should have:

• Successfully completed Western Australian Certificate of Education (WACE) or its year 12 Australian or International equivalent with a score of at least 50 in, English, literature or EALD; or
• Successfully completed the full International Baccalaureate Diploma with a minimum of 24 points from six subjects at one sitting. Three of the subjects must be at the higher level. One of the six subjects should be English; or
• Successfully completed a 12 month VET Certificate IV in a relevant area; or
• Completed a relevant qualification in another country that is deemed by the National Office of Overseas Skills Recognition (NOOSR) as being at least comparable to an AQF Certificate IV.

School Leavers
South Metropolitan TAFE will accept an AQF/TAFE Certificate IV as a basis for admission to most courses, however school leavers using a Certificate IV achieved during their Years 11 and 12 must also have:

• achieved a WACE; and
• meet South Metropolitan TAFE’s English Language requirement.

English Language Requirements
Entrance is subject to English Language Admission requirements, such as:

• IELTS score of 6.0 (Academic Version) overall with no individual band lower than 5.5; or
• TOEFL score of 530 or above; or
• Medium of instruction at school being English, and satisfactory grades in English in final examinations (such as “C” grade at 0 level).

Alternative Admission Requirements
Students may be of mature age with relevant work or other practical experience and a demonstrated level of general education, which provides them with a reasonable chance of successfully completing the program.

Mature age selection criteria will be based on an assessment of the applicant’s previous educational record, work and other relevant experience and interest in the field of study.

Students meeting admission requirements will be offered a place in the course and invited to enrol. You must complete the approved enrolment form and pay your fees to secure your place in the course.

All enrolled students agree to abide by South Metropolitan TAFE’s General and Academic Regulations and Student Code of Conduct. These are available in the Higher Education Student Handbook or from our website.

International students please refer to the TAFE International website for further responsibilities as an international student in Australia.

To Apply Online
Domestic Students can apply online at our website.

International Students can apply online to study at South Metropolitan TAFE on the TAFE International website at www.tafeinternational.wa.edu.au.

TAFE International (TIWA) is the unit within the Western Australian Government responsible for the recruitment and admission of international students into studying at Western Australian TAFE Institutes. TIWA is the registered CRICOS holder on behalf of South Metropolitan TAFE.

ENROLMENT WITH ADVANCED STANDING

If you have undertaken previous study in a similar field you may be eligible to enrol with advanced standing and have your previous learning recognised.

Advanced Standing is the granting of credit towards the completion of a course based on previous studies that has been judged to have units that are equivalent to those in the course.

International students should refer Advanced Standing enquiries to TAFE International.

If you have completed VET courses, you may be eligible to receive advanced standing.
STUDENT RIGHTS AND RESPONSIBILITIES

It is the responsibility of every student to be aware of South Metropolitan TAFE’s General and Academic Regulations, the Student Code of Conduct and the policies and procedures that relate to your rights and responsibilities as a student. These can be found in the Higher Education Student Handbook and on the South Metropolitan TAFE website.

You are advised to obtain a Student I.D. card which will provide you with access to library services at South Metropolitan TAFE campuses and with our partner organisations. The Student I.D. card will also be required as proof of identity when you attend examinations.

ASSESSMENT OF THE ASSOCIATE DEGREE OF NETWORKING

Assessment information and marking criteria for each unit will be provided in the Subject Guide at the start of your study semester and you must abide by the assessment requirements set by the South Metropolitan TAFE Academic Regulations and in the Subject Guide. You will be given feedback on your performance in all assignments including the criteria against which the final mark was determined. Submission dates will not be altered unless an Application for Deferred Assessment has been completed and approved.

GRADUATION WITH THE ASSOCIATE DEGREE OF NETWORKING

To be awarded this qualification you must pass all the required units within the course. Once these are completed you will be entitled to apply to graduate with a Associate Degree of Networking.

PATHWAYS

Students graduating with the Associate Degree of Networking are eligible to apply for credit towards a Bachelor degree at one of our articulating universities. Check our website for up-to-date credit recognition arrangements.

STUDY FEES

Associate Degree of Networking

International students
The tuition fee for international students is:
$1,996 per unit. This fee is paid to TAFE International. Please refer to the TAFE International website for payment details and refund policy.

Domestic Students
The tuition fee for domestic students is
$1,480 per unit; or
$1,850 deferred (includes 25% FEE-HELP Loan Fee).

A full time study load consists of four units per semester.

These fees are valid for Semester 1 and Semester 2, 2017.

Fees are reviewed on an annual basis.

The Higher Education tuition fee statement is available on the South Metropolitan TAFE website.

Course Costs
In addition to the fees payable for this course, you may need to pay for textbooks and any additional costs associated with your chosen course.

HIGHER EDUCATION STUDENT SERVICES

Higher Education Student Services staff can offer advice and support to make your education experience as successful as possible. If they cannot directly assist, suggestions can be made about referral to other staff or appropriate agencies which may be able to help if you are experiencing personal problems or difficulties with your study.

Appointments with Client Services staff may be arranged at a Customer Service Centre by phoning 1800 001 001 or via email hess@smtafe.wa.edu.au.

DISCLAIMER

The information contained in this publication is correct at the time of publishing but may be subject to change without notice. For up-to-date and current information, please check our website.