

The logo for ACIT IFTV features the text 'ACIT' in blue and 'IFTV' in orange. To the right of the text is a black silhouette of a professional video camera on a tripod. The background of the entire page is a vibrant orange and blue gradient with a grid of glowing white lines and faint binary code (0s and 1s) scattered throughout.

**ACIT IFTV**

AUSTRALIAN COLLEGE OF INFORMATION TECHNOLOGY  
& INSTITUTE OF FILM AND TELEVISION

Study and work in a well paid career

# **TELECOMMUNICATIONS AND IT NETWORKING ENGINEERING**

[www.acit.edu.au](http://www.acit.edu.au)

CRICOS Provider 02771G

## OVERVIEW

This program teaches the essential professional level skills required for the design and implementation of Information technology networks in enterprise, service provider, and carrier environments.

In addition students should learn how to plan and implement secure resilient IP networks, virtualised environments, Unified Communications systems, and be able to undertake high level design for modern data centres. The program teaches the related technical and planning skills that support these activities. Each subject is structured as a self standing professional course covering a specific topic in detail.

## QUALIFICATIONS EMBEDDED IN THE PROGRAM

- Certificate IV in Information Technology Networking
- Diploma of Information Technology Networking
- Advanced Diploma of Telecommunications Network Engineering

## POSSIBLE VOCATIONAL OUTCOMES

- Telecommunications network planner
- Telecommunications network designer
- IP based network designer
- Telecommunications field engineer
- Network security manager
- Network services administrator
- IP based convergence integrator
- Telecommunications network administrator

## SUBJECT AREAS

### FIRST YEAR SUBJECTS

#### Safe and Sustainable IT Practices

This subject teaches the skills and knowledge required to:

- Participate in workplace occupational health and safety (OHS) consultative processes
- Analyze the workplace in relation to environmentally sustainable work practices
- Implement improvements and monitor their effectiveness

#### Configuring Windows 10

This subject provides students with the knowledge and skills required to install and configure Windows 10 desktops and devices in a corporate Windows Server domain environment. The skills that this course details include learning how to install and customize Windows 10 operating systems and apps, and configure local and remote network connectivity and storage. Students also will learn how to configure security for data, devices, and networks, and maintain, update, and recover Windows 10.

#### Networking Fundamentals

This subject explains the language and basic principles of networks. It also includes numerous interactive exercises to help teach and reinforce the information as well as test your knowledge and understanding of the topic. Upon completing this subject, you will have a working understanding of how networks work as well as the technologies that make networks possible. This subject is delivered online.

## CCNA Certification Training

This subject covers the certification exam objectives of the Cisco CCNA. Topics include:

- Ethernet Networking and Data Encapsulation
- TCP/IP and Subnetting
- Cisco's Internetworking Operating System (IOS)
- Network Address Translation (NAT)
- Layer 2 switching and Virtual IAnS (VIAnS)
- Security
- Wireless Technologies
- Internet protocol Version 6 (IPv6)
- Wide Area networks
- IP routing

## MCSA Windows Server 2016 Certification Training

This subject covers implementing, managing, maintaining, and provisioning services and infrastructure in a windows server 2016 environment. This subject is delivered in class. The main topics are:

- Installing and Configuring Windows Server 2016.
- Administering Windows Server 2016.
- On completion of this subject students should be able to:
- Install and Configure Windows Server 2016.
- Describe AD DS infrastructure, and install and configure domain controllers.
- Describe installing and configuring Dynamic Host Configuration Protocol (DHCP), in addition to managing a DHCP database.
- Describe implementing IPv6 addressing.
- Describe Microsoft Virtualization technologies, including Hyper-V.
- Manage user desktops with Group Policy.
- Manage user and service accounts.
- Configure and troubleshoot domain name system (DNS).

## Project Management

Much of the work carried out by I.T. Professionals is performed as part of a project. Whether it is installing a single server or an entire data centre, the work needs to achieve certain results within a defined time frame and budget. The job of the project manager is to ensure that this happens.

In this subject you will be introduced to the tools and techniques that project managers use to achieve project objectives.

This subject provides you with the opportunity to integrate and coordinate your knowledge and skills within a project management scenario.

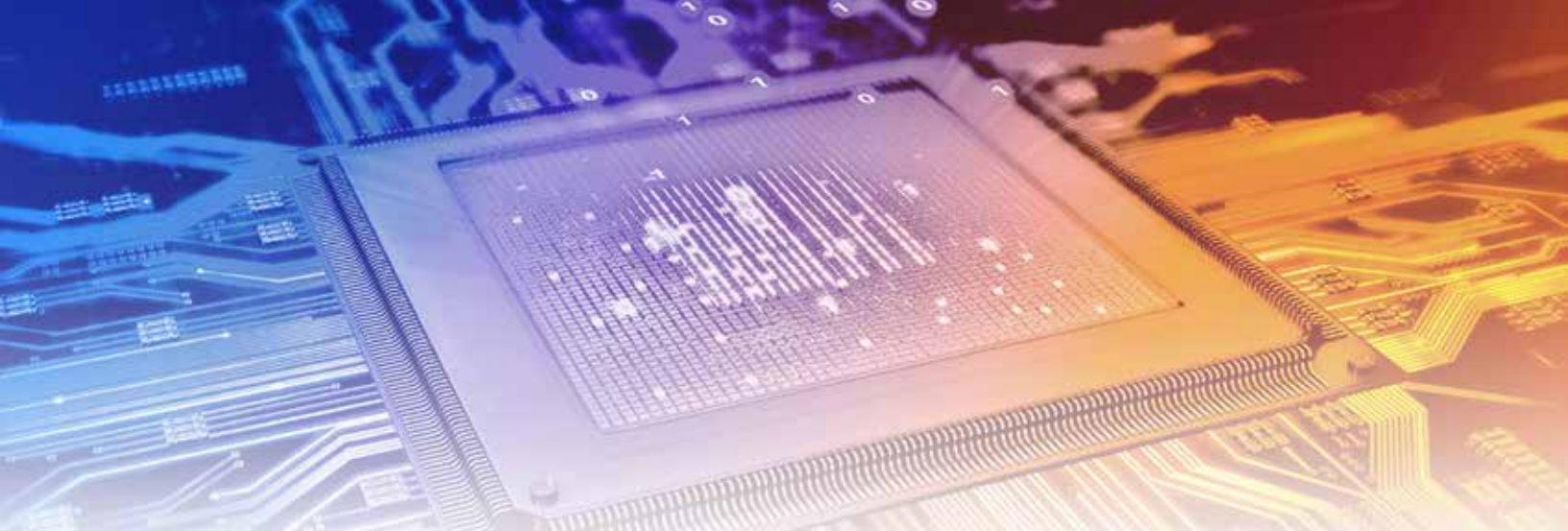
## SECOND YEAR SUBJECTS

### Juniper Networks JNCIA-Junos Certification Training

This subject covers the certification exam objectives of the Juniper networks JNCIA – Junos. Topics include:

- Junos Operating System Fundamentals
- System Configuration
- Operational Monitoring and Maintenance
- Routing Fundamentals
- Routing Policy and Firewall filters
- Protocol-Independent Routing
- Load Balancing and Filter-Based Forwarding
- Open Shortest Path First
- Border Gateway Protocol
- IP Tunnelling
- High Availability





## **Juniper Networks JNCIS – ENT – SEC Certification Training**

This subject includes the Juniper networks official courses covering the objectives of the JNCIS Enterprise and security certification exams. These are; Junos Enterprise Switching, Junos Security, Junos Unified Threat Management. Topics include:

- Zones  
Network Address Translation
- Security Policies
- SCREEN Options

## **Data Centre Design**

Students should learn to design and plan for the provisioning of telecommunications and data centre infrastructure that meets business requirements. On completion of the subject students should be able to:

Describe the critical factors affecting data centre design

- Analyze and plan for sustainability requirements
- Analyze business requirements for data centre infrastructure
- Develop a detailed design brief for the provisioning of datacentre equipment & facilities
- Analyze and plan for security and Tier level requirements
- Prepare high level drawings for project managers and engineers
- Calculate power, space and cooling requirements

## **Junos MPLS and VPNs**

This subject provides students with MPLS-based virtual private network (VPN) knowledge and configuration examples. The course includes an overview of MPLS concepts such as control and forwarding plane, RSVP Traffic Engineering, LDP, Layer 3 VPNs, next-generation multicast virtual private networks (MVPNs), BGP Layer 2 VPNs, LDP Layer 2 Circuits, and virtual private LAN service (VPLS). This subject also covers Junos operating system-specific implementations of layer 2 control instances and active interface for VPLs.

## **Unified Communications**

Information Technology professionals with an understanding of how to implement Unified Communications solutions are highly in demand and well placed for an exciting and rewarding career in this dynamic sector. The course covers Asterisk and the environment in which it operates, both in terms of operating system and telephony (traditional and IP) connections. This course will take you from a freshly installed Linux PC through to a fully configured and working Asterisk implementation.

After completing this course, students will be able to:

- Identify the purpose and primary functionality of Asterisk as a PBX and as an application development platform
- List the functionality associated with a traditional PBX
- Understand the history of Asterisk and its powerful open source community
- Define the operating system environments in which Asterisk is developed and supported
- Install and run Asterisk from the packages available for download from [www.asterisk.org](http://www.asterisk.org)
- Configure Asterisk to deliver basic PBX functionality, including basic call routing, voicemail and directory services
- Install and configure a number of VoIP devices

## **Cloud and Datacentre Virtualisation**

This subject covers the key functions and components of VMware vSphere including the overall architecture, installation, vCenter and virtual machine management, networking, and storage.

Topics include:

- VMware vSphere architecture and installation
- Configuring Virtual Switches
- VMware vStorage
- VMware vCenter Server
- Working with iSCSI SAN's
- Datacenters, clusters, and load balancing
- Disaster recovery and high availability

# STUDY AND WORK IN A WELL PAID CAREER

## NATIONAL AND INTERNATIONAL INDUSTRY CERTIFICATIONS

- CERTIFICATE IV IN INFORMATION TECHNOLOGY NETWORKING
- DIPLOMA OF INFORMATION TECHNOLOGY NETWORKING
- ADVANCE DIPLOMA OF TELECOMMUNICATIONS NETWORKING ENGINEERING

Includes training for the following certifications:

- Microsoft Technology Associate: Networking Fundamentals
- Microsoft Technology Associate: Operating System Fundamentals
- Microsoft Certified Solutions Associate - Server 2016
- Cisco Certified Networking Associate (CCNA)
- Juniper Networks Certified Associate - Junos (JNCIA-Junos)
- Juniper Networks Certified Specialist Enterprise Routing and Switching
- VMware Certified Associate - Data Center Virtualization (VCA-DCV)



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