

Information Technology

A number of streams are available in this area of study. Each differs in the way information is viewed, the tools used and the level of complexity. Students are therefore able to select a stream that best meets their needs and interests.

Note: A limit of a double major will apply to the number of Information Studies courses that can be counted towards the calculation of a University Admissions Index (UAI)

Information Studies Courses are:

Information Technology (T/A/V)

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All students in Semester 1 Year 11 start in the Applications Stream. The first unit is an introductory unit that covers essential skills and competencies for Information Technology. In Semester 2 students may continue in the Applications Stream or choose to follow the Programming Stream. In Year 12 students in the Applications Stream go into the Multimedia Stream, those in the Programming Stream may continue in this Stream.

Students who join the Networking Stream are strongly advised to enrol in the introductory unit in the Applications Stream and continue in the Applications Stream or Programming Stream in Year 11.

Students may gain a Certificate I or II in Information Technology by completing the required competencies over the course of their studies in Information Technology. To gain a Certificate II students must also complete a structures Work Placement.

Y11	S1	S2	Y12	S1	S2
	Applications Stream →	Applications Stream	→	Multi Media Stream	Multi Media Stream
	↘	Programming Stream	→	Programming Stream	Programming Stream
	Networking Stream	Networking Stream	→	Networking Stream	Networking Stream
	Accredited Stream	Accredited Stream	→	Accredited Stream	Accredited Stream

Information Technology (T/V) - Applications Stream

This course is a practical study of the ways in which IT can be used, as a tool, in the solution of problems in many areas of contemporary society. It focuses on the selection of appropriate software to meet particular needs, and the development of skills and knowledge in the use of a variety of software applications.

The V component can be gained by participating in work placement in industry and completing some required competencies.

IT Applications (Semester 1) is a common introductory unit for both the Applications, Programming, and Networking Streams of the IT course.

LIST OF UNITS

1st Semester units in the **IT Applications Stream** consists of the half units **ITA Concepts** and **ITA Relational Database Usage**

- **ITA Concepts** is an introductory unit to the different streams in our Faculty. The Streams being Computer Applications, Networks, Programming and Multi Media. It also includes current Australian Occupational Health and Safety procedures.

All students intending to pursue IT studies needs to successfully complete this unit.

- **ITA Relational Database Usage** will look at the purpose and features of database packages and their operation. This will include using and creating databases and interrogating them using queries and reports.

COURSE PATTERNS

Information Technology (T/A/V) is available as a Minor, Major, Major-Minor or Double Major.

The IT Applications and IT Multi Media streams can be combined to form a major in IT.

Experience by the end of Year 10	Year 11 Semester 1	Later Units
No previous study required	IT Applications	IT Applications ITM Digital Editing and 2D Animation ITM Introduction to Website Design ITM Web & Multimedia Integration

Information Technology (T/V) - Programming Stream

The aim of this course is to provide a background in computer programming and computer programming related fields for students wishing to pursue IT studies at tertiary level. The knowledge and skills required for students considering careers as IT professionals will be introduced. Problem-solving abilities and strategies will be developed in conjunction with suitable high level languages.

The V component of the course introduces knowledge and skills required for students considering careers as IT professionals.

The V component can be gained by participating in work placement in industry and completing some compulsory units.

Some programming units have specific prerequisites. Students who take the standard sequence in the Programming Stream will satisfy these requirements.

LIST OF UNITS

1st Semester units in **IT Applications** consists of the units ITA Concepts and ITA Relational Database Usage.

- **ITA Concepts** is an introductory unit to the different streams in our Faculty. The Streams being Computer Applications, Networks, Programming and Multi Media. It also includes current Australian Occupational Health and Safety procedures. All students intending to pursue IT studies needs to successfully complete this unit.

- **ITA Relational Database Usage** will look at the purpose and features of database packages and their operation. This will include using and creating databases and interrogating them using queries and reports.

2nd Semester units in the **IT Programming Stream** consists of the half units ITP Systems Analysis and Design and ITP System Implementation.

- **ITP Systems Analysis and Design** will provide students the opportunity to study the logical modelling of system processes, data flow diagrams and conceptual schema used in the design of databases. The emphasis is on developing solutions to problems, implementing and documenting them.

- **System Implementation** will provide students with the opportunity to implement solutions, design and build and modify relational databases, including querying and reporting from the database.

3rd Semester units in the **IT Programming Stream** consists of the half units **ITP Program Design and Concepts 1** and **ITP Program Design and Concepts 2**

- **ITP Program Design and Concepts** will provide students with the opportunity to study problem solving procedures. Students learn about algorithm definition and representation and the use of Boolean expressions in programming. The emphasis is on developing solutions to problems, by designing and implementing programs and documenting the process.

The 4th semester of study consists of one of the following units. The choice depends upon the teacher and students preference.

- **ITP Computer Games** consists of the nature of computer games, including their history, genres, social and ethical implications and current and future trends. Students design, implement, test and produce simple documentation for an original game using a CASE tool or a visual programming environment.

Or

- **ITP Advanced Program Design and Concepts** will explore higher level programming skills including sorting, file handling and multi-dimensional arrays. Advanced Program Design and Concepts 2 has as a prerequisite of Advanced Program Design and Concepts 1.

- **ITP Advanced Program Design and Concepts 1** and

- **ITP Advanced Program Design and Concepts 2**

Or

- **ITP Object Oriented Programming** will explore the differences between Object Oriented Programming design and other systems design methods, create software, classes and hierarchies using an Object Oriented Programming language.

- **ITP Object Oriented Programming 1** and

- **ITP Object Oriented Programming 2**

COURSE PATTERNS

Information Technology (T/A/V) is available as a Minor, Major, Major-Minor or Double Major

Experience by the end of Year 10	Year 11 Semester 1	Later Units
No previous study required	IT Applications	ITP Systems Analysis, Design , Implementation ITP Program Design and Concepts ITP Computer Games Or ITP Advanced Program Design and Concepts Or ITP Object Orientated Programming

Information Technology (T/V) - Multi Media Stream

This course is a practical study of the ways in which IT can be used, as a tool, in the solution of multimedia problems in many areas of contemporary society. It focuses on the visual - graphics, animation and web page design, including the development of skills and knowledge in the use of a variety of software applications.

LIST OF UNITS

The first semester units in the Multi Media Stream consists of the half units **ITM Digital Editing**, **Sound and Video Editing** and **ITM 2D Animation**

- **ITM Digital Editing** will provide students with the ability to appreciate the differences between different image formats, manipulation and image crafting techniques as well as to understand the digital video and digital video audio file types and incorporate them into applications.
- **ITM 2D Animation** will provide students with the ability to create short animated sequences and effects as well as create animated characters in scenes and presentations.

The second semester units in the Multi Media Stream consists of the half units **ITM Introduction to Website Design** and **ITM Web & Multimedia Integration**

- **ITM Introduction to Website Design** will provide students with the ability to use HTML scripting to create a simple website, inline frames and interactive forms and use JavaScript to add interactive elements to web sites. Students will plan and design a web site.
- **ITM Web & Multimedia Integration** will enable students to edit and optimise sound and video files for inclusion in websites, design and create complex animations for inclusion in websites, and apply the principles of project management to a website project.

NB: It is expected that Multi Media be attempted by year 12 students, however year 11 students will not be excluded if they wish to do these units as part of a package with photography.

COURSE PATTERNS

Information Technology (T) and (V) is available as a Minor, Major, Major-Minor or Double Major.

IT Multi Media and IT Applications can be combined to form a major in IT.

Experience by the end of Year 10	Year 12 Semester 1	Year 12 Semester 2
No previous study required	ITM Digital Editing and 2D Animation	ITM Introduction to Website Design ITM Web & Multimedia Integration

Information Technology (T/V) -Networking Stream CISCO Certified Network Associate (CCNA)

This Stream follows the course towards the Vendor Certificate CCNA recognised worldwide as a networking qualification. It is completed as an online course, through our college Intranet. The course consists of four semesters of study leading to the CCNA certificate. Students are required to undertake the online CISCO exam at the end of each semester as well as the final CCNA exam in order to gain this qualification. An overall exam administered by a private provider at a cost to the student provides the industry based CISCO CCNA certificate.

IT Applications (Semester 1) is a compulsory introductory unit for the IT Networking stream.

LIST OF UNITS

- **ITN Networking** will enable students to identify hardware, software and media components in local and wide area networks, including the study of network topologies and layers in network models.
- **ITN Configuring LANs** will enable students to identify the functions of the TCP/IP transport layer protocol, configure routers, verify IP addresses, filter IP traffic and study networking topologies.
- **ITN Working within a Switched Network** will enable students to configure IPX access lists, understand network segmentation using bridges, routers, switches, describe ethernet operations and the benefit of virtual LANs.
- **ITN Configuring WANs** will enable students to differentiate between WAN services, recognise key Frame Relay terms and features, identify PPP operations, ISDN protocols and ISDN networking contexts.

COURSE PATTERNS

Information Technology (T/V) is available as Minor, Major, Major/Minor and Double Major.

Experience by the end of Year 10	Year 11 Semester 1	Later Units
No previous study required	IT Applications AND IT Networking	IT Configuring LAN's IT Working within a Switched Network IT Configuring WAN's AND two other semester units from the IT Applications, IT Media or IT Programming streams

Accredited Stream (A/V)

This stream is designed for students who wish to develop their Information Technology skills but do not wish to study this course at Tertiary level. The units studied in Year 11 are the same as the units in the Applications Stream but in less depth, with different assessment items. In Year 12 students study the same units as the Multi Media Stream again in less depth, with different assessment items.

Experience by the end of Year 10	Year 11 Semester 1	Later Units
No previous study required	No previous study required	No previous study required

