

Advanced Diploma of Information Technology

Description

This qualification provides high level information and communications technology (ICT), process improvement and business skills and knowledge to enable an individual to be effective in senior ICT roles within organisations.

Job roles

Job roles and titles vary across different sectors. Possible job titles relevant to this qualification include: ICT projects manager, developer-cloud computing services/strategies for businesses, web programmer.

Employability Skills – Qualification Summary

The following table contains a summary of the employability skills for this qualification. The employability skills facets described here are broad industry requirements

<u>Employability skill</u>	<u>Industry/enterprise requirements for this qualification include:</u>
Communication	<ul style="list-style-type: none"> ▶ consulting, questioning, clarifying and evaluating information ▶ interpreting customer needs ▶ negotiating budgets and plans and then re-developing as required to meet organisational needs ▶ negotiating with internal and external stakeholders ▶ utilising excellent interpersonal skills, and producing a wide range of reports and making presentations as required
Teamwork	<ul style="list-style-type: none"> ▶ briefing various personnel on their roles and responsibilities regarding the implementation of the marketing plan ▶ coordinating resources and developing systems to manage team and individual performance ▶ defining performance measures and working collaboratively with team members ▶ identifying performance gaps and taking remedial action for underperformance
Problem-solving	<ul style="list-style-type: none"> ▶ assessing financial viability of new opportunities and matching organisational capability with market needs ▶ collecting and analysing data ▶ comparing and contrasting data

	<ul style="list-style-type: none"> ▶ conducting situational analyses ▶ developing and managing risk and contingency plans ▶ developing strategies for improvement ▶ performing cost benefit analyses, budgeting, assessing and managing risk
Initiative and enterprise	<ul style="list-style-type: none"> ▶ evaluating and improving market performance ▶ identifying strengths and opportunities within organisation's projected capabilities and resources
Planning and organising	<ul style="list-style-type: none"> ▶ collecting, collating and analysing information using appropriate workplace business systems ▶ developing customer acquisition and retention strategies ▶ developing systems that are flexible and responsive to changing circumstances ▶ evaluating processes and making changes as required ▶ planning and managing resource acquisition and deployment within budgetary constraints ▶ planning for contingencies
Self-management	<ul style="list-style-type: none"> ▶ applying discretion and judgement within complex environments ▶ managing own time and performance ▶ using judgement in planning and in the selection and allocation of resources ▶ working within organisational policies and procedures and legislative requirements
Learning	<ul style="list-style-type: none"> ▶ coaching and mentoring others to acquire new knowledge and skills ▶ providing learning and development opportunities
Technology	<ul style="list-style-type: none"> ▶ creating presentations using a range of media ▶ using computerised systems, software and telecommunication devices ▶ using technology to assist with the management of information and to assist the planning process ▶ using technology to record and generate ideas

Duration: 9 months + 6 months Industrial Attachment

Qualification Entry Requirements

Academic

- AAC Diploma of Information Technology (Level 4) (or)
- Level 4 Diploma from any other PEIs in a relevant field (or)
- Any other equivalent qualification.

(Matured students aged 30 years and above with at least 8 years of work experience will be considered for admission.)

English Proficiency

- IELTS 5.5 OR
- AAC EFL Level 5 or equivalent.

Students without formal English qualifications will be given a placement test to determine their level of proficiency.

Minimum age: 17 years old

Qualification Modules

Full Time

#	Code	Module Name	Competency Code*	Competency Name*	Face to Face Contact Hours	Independent Learning Hours	Assessment Preparation Hours
1	ADIT 211	Artificial Intelligence and Machine Learning	ICTAI401	Identify opportunities to apply artificial intelligence, machine learning and deep learning	45	40	40
			ICTAI501	Automate work tasks using machine learning			
2	ADIT 212	Data Analytics	ICTDAT601	Develop data integration strategies	45	40	40
			BSBXBD403	Analyse big data			
3	ADIT 213	Advanced Mathematics for Technology	MEM234024	Apply advanced mathematics to technology problems	45	40	40
4	ADIT202	Cloud Computing	ICTPRG614	Create cloud computing services	45	40	40
			ICTCLD601	Develop cloud computing strategies for businesses			
5	ADIT204	ICT Copyrights and Ethics	ICTICT618	Manage IP, ethics and privacy in ICT environments	45	40	40
6	ADIT206	Manage ICT Team	BSBTWK502	Manage team effectiveness	45	40	40
			ICTICT608	Interact with clients on a business level			
			BSBCRT611	Apply critical thinking for complex problem solving			
7	ADIT208	Advanced Programming	ICTPRG547	Apply advanced programming skills in another language.	45	40	40

8	ADIT209	ICT Strategic Business Plans	ICTSAD609	Plan and monitor business analysis activities in an ICT environment	45	40	40
			ICTICT611	Develop ICT strategic business plans			
9	ADIT210	Cyber Security Assessments	ICTCYS601	Create cyber security standards for organisations	45	40	40
			ICTCYS608	Perform cyber security risk assessments			
10	ADIT207	Industrial Attachment	-	-	-	970	-
					405	360	360
* Competency Code and Competency Name are taken from the 'ICT60220 - Advanced Diploma of Information Technology (Release 3)'. ** The Industrial Attachment (if any) is an integral module of the programme. However, suppose a student is unable to participate in the Industrial Attachment module due to circumstances beyond the control of the Student or the College, like non-approval of the Training Work Permit by the Ministry of Manpower or unable to secure an intern placement due to unavailability of vacancies, the Student will be required to complete a Research-Based Project with the submission of a report to be considered for graduation for the course. While AAC will make its best efforts to secure Industrial Attachment for the students, it does not guarantee that it will be able to secure one for every student.					Total 1125 learning hours (Excluding Industrial Attachment)		

Part Time

#	Code	Module Name	Competency Code*	Competency Name*	Face to Face Contact Hours	Independent Learning Hours	Assessment Preparation Hours
1	ADIT 211	Artificial Intelligence and Machine Learning	ICTAI401	Identify opportunities to apply artificial intelligence, machine learning and deep learning	30	55	40
			ICTAI501	Automate work tasks using machine learning			
2	ADIT 212	Data Analytics	ICTDAT601	Develop data integration strategies	30	55	40
			BSBXBD403	Analyse big data			
3	ADIT 213	Advanced Mathematics for Technology	MEM234024	Apply advanced mathematics to technology problems	30	55	40
4	ADIT202	Cloud Computing	ICTPRG614	Create cloud computing services	30	55	40
			ICTCLD601	Develop cloud computing strategies for businesses			
5	ADIT204	ICT Copyrights and Ethics	ICTICT618	Manage IP, ethics and privacy in ICT environments	30	55	40
6	ADIT206	Manage ICT Team	BSBTWK502	Manage team effectiveness	30	55	40
			ICTICT608	Interact with clients on a business level			
			BSBCRT611	Apply critical thinking for complex problem solving			
7	ADIT208	Advanced Programming	ICTPRG547	Apply advanced programming skills in another language.	30	55	40
8	ADIT209	ICT Strategic Business Plans	ICTSAD609	Plan and monitor business analysis activities in an ICT environment	30	55	40

			ICTICT611	Develop ICT strategic business plans			
9	ADIT210	Cyber Security Assessments	ICTCYS601	Create cyber security standards for organisations	30	55	40
			ICTCYS608	Perform cyber security risk assessments			
10	ADIT207	Industrial Attachment	-	-	-	970	-
					270	445	360
* Competency Code and Competency Name are taken from the 'ICT60220 - Advanced Diploma of Information Technology (Release 3)'. ** The Industrial Attachment (if any) is an integral module of the programme. However, suppose a student is unable to participate in the Industrial Attachment module due to circumstances beyond the control of the Student or the College, like non-approval of the Training Work Permit by the Ministry of Manpower or unable to secure an intern placement due to unavailability of vacancies, the Student will be required to complete a Research-Based Project with the submission of a report to be considered for graduation for the course. While AAC will make its best efforts to secure Industrial Attachment for the students, it does not guarantee that it will be able to secure one for every student.					Total 1125 learning hours (Excluding Industrial Attachment)		

Synopsis			
Module Name	Competency Code*	Competency Name*	Description
Artificial Intelligence and Machine Learning	ICTAI401	Identify opportunities to apply artificial intelligence, machine learning and deep learning	This unit describes the skills and knowledge required to identify opportunities where artificial intelligence (AI), machine learning (ML) and deep learning (DL) can be applied to support the automation of work tasks and improve organisational productivity.
	ICTAI501	Automate work tasks using machine learning	This unit describes the skills and knowledge required to use machine learning (ML) principles and techniques to support the automation of procedural tasks and improve organisational productivity.
Data Analytics	ICTDAT601	Develop data integration strategies	This unit describes the skills and knowledge required to analyse complex data in workplace contexts to inform data integration strategies. It includes analysing data trends and contextualising insights according to industry and organisational requirements.
	BSBXBD403	Analyse big data	This unit describes the skills and knowledge required to analyse transactional and non-transactional big data in order to provide insights that are used in an organisation. It involves identifying trends and relationships within big data, and establishing data acceptability. It also involves forming recommendations based on the analysis, and reporting on analysis findings.
Advanced Mathematics for Technology	MEM234024	Apply advanced mathematics to technology problems	This unit of competency defines the skills and knowledge required to apply advanced mathematics in an engineering or related application and includes a range of mathematical techniques. It covers both the

			application of theory in simple calculations either manually or through the use of relevant software packages for more complex situations.
Cloud Computing	ICTPRG614	Create cloud computing services	This unit describes the skills and knowledge required to design, build, test and deploy web services and cloud computing applications to specifications.
	ICTCLD601	Develop cloud computing strategies for businesses	This unit describes the skills and knowledge required to develop a cloud computing strategy to establish cloud computing services to improve a business.
ICT Copyrights and Ethics	ICTICT618	Manage IP, ethics and privacy in ICT environments	This unit describes the skills and knowledge required to manage the issues of intellectual property (IP), copyright and professional and ethical conduct in a team and to ensure that personal information of stakeholders is handled in a confidential and professional manner.
Manage ICT Team	BSBTWK502	Manage team effectiveness	This unit describes the skills and knowledge required to lead teams in the workplace and to actively engage with the management of the organisation.
	ICTICT608	Interact with clients on a business level	This unit describes the skills and knowledge required to interact with clients at a management level.
	BSBCRT611	Apply critical thinking for complex problem solving	This unit describes the skills and knowledge required to apply critical thinking in order to develop solutions to complex issues arising in the workplace.

Advanced Programming	ICTPRG547	Apply advanced programming skills in another language.	This unit describes the skills and knowledge required to undertake advanced level programming tasks using another programming language. The language may be an object-oriented language
ICT Strategic Business Plans	ICTSAD609	Plan and monitor business analysis activities in an ICT environment	This unit describes the skills and knowledge required to establish and manage Information and Communications Technology (ICT) business analysis activities in a medium-to-large organisation.
	ICTICT611	Develop ICT strategic business plans	This unit describes the skills and knowledge required to create strategic in alignment with organisational Information and Communications Technology (ICT) goals and strategies.
Cyber Security Assessments	ICTCYS601	Create cyber security standards for organisations	This unit describes the skills and knowledge required to research, plan and implement cyber security standards for an organisation.
	ICTCYS608	Perform cyber security risk assessments	This unit describes the skills and knowledge required to conduct a risk assessment and analysis in a business environment. The risk assessment requires the identity and alignment of an organisation's operating environment to their required risk register and the realignment of their operations.

Industrial Attachment	ADIT207	Industrial Attachment	<p>The industrial attachment allows the student to apply the concepts and principles gained in the Advanced Diploma of Information Technology. Students will undertake an internship programme with IT companies and companies with IT departments exposed to network servers, software, and hardware development, supporting IT infrastructure and system security, web programming, or any other areas in the IT sector related to their interest or area of specialisation.</p>
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Assessment Arrangements

Competency Code	Competency Name	Demonstration	Practical	Activities	Observation	Role play	Case study/Scenario	Questions and Answers	Project/Report	Presentation,	Portfolio/Journal	Online
ICTAI401	Identify opportunities to apply artificial intelligence, machine learning and deep learning	✓	✓	✓			✓	✓	✓	✓		✓
ICTAI501	Automate work tasks using machine learning	✓	✓	✓			✓	✓	✓	✓		
ICTDAT601	Develop data integration strategies	✓	✓				✓	✓	✓	✓		
BSBXBD403	Analyse big data	✓	✓				✓	✓	✓	✓		
MEM234024	Apply advanced mathematics to technology problems						✓	✓	✓	✓		
ICTPRG614	Create cloud computing services	✓	✓	✓			✓	✓	✓	✓	✓	✓
ICTCLD601	Develop cloud computing strategies for businesses	✓	✓	✓			✓	✓	✓	✓	✓	✓
ICTICT618	Manage IP, ethics and privacy in ICT environments		✓				✓	✓	✓		✓	
BSBTWK502	Manage team effectiveness			✓		✓	✓	✓	✓	✓	✓	✓
ICTICT608	Interact with clients on a business level			✓	✓	✓	✓	✓	✓	✓	✓	
BSBCRT611	Apply critical thinking for complex problem solving			✓	✓	✓	✓	✓	✓	✓	✓	
ICTPRG547	Apply advanced programming skills in another language.		✓	✓			✓	✓	✓		✓	
ICTSAD609	Plan and monitor business analysis activities in an ICT environment			✓	✓	✓	✓	✓	✓			
ICTICT611	Develop ICT strategic business plans			✓	✓	✓	✓	✓	✓			
ICTCYS601	Create cyber security standards for organisations		✓	✓			✓	✓	✓			

ICTCYS608	Perform cyber security risk assessments		✓	✓			✓	✓	✓			
ADIT207	Industrial Attachment								✓			

The assessment objectives tested in these modules are broadly categorised in the following hierarchical order:

1. **Knowledge:** Exhibit memory of previously learned materials by recalling facts, terms, basic concepts and answers
2. **Comprehension:** Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating the main ideas
3. **Application:** Using new knowledge. Solve problems in new situations by applying acquired knowledge, facts, techniques and rules in a different way
4. **Analysis:** Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations
5. **Evaluation:** Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria
6. **Synthesis:** Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions

Specification Grid

The relationship between the assessment objectives and components of the scheme of assessment is as follows

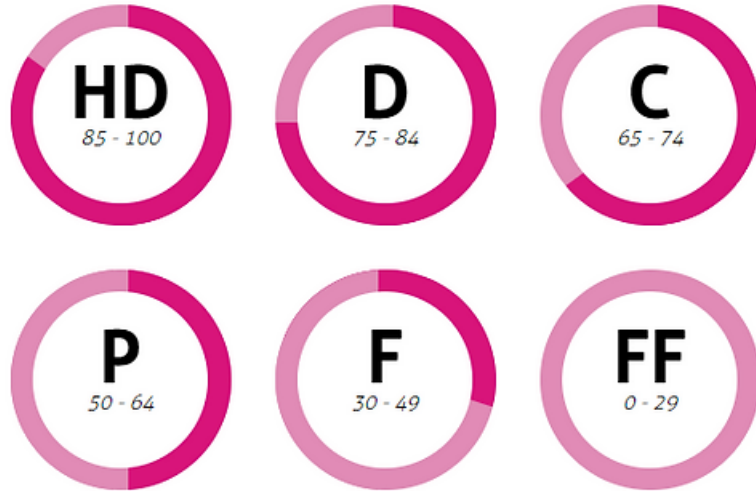
Knowledge	Comprehension	Application	Analysis	Evaluation	Synthesis
10%	20%	20%	20%	20%	10%

The assessment objectives are weighted to give an indication of their relative importance. They are not intended to provide a precise statement of the number of marks in particular skills.

Code	Name of the module	Assessment 1	Assessment 2
ADIT 211	Artificial Intelligence and Machine Learning	50%	50%
ADIT 212	Data Analytics	50%	50%
ADIT 213	Advanced Mathematics for Technology	50%	50%
ADIT202	Cloud Computing	50%	50%
ADIT204	ICT Copyrights and Ethics	50%	50%
ADIT206	Manage ICT Team	50%	50%
ADIT208	Advanced Programming	50%	50%
ADIT209	ICT Strategic Business Plans	50%	50%
ADIT210	Cyber Security Assessments	50%	50%
ADIT207	Industrial Attachment	100%	NA

Marks and Grades

The infographic below shows the academic grading of this course with the breakdown of marks.



Graduation Requirement:

In order to be awarded the Advanced Diploma of Information Technology, a student must obtain at least a **Pass Grade** in all the modules within the eligibility period of 2 years from the original completion date.

Certificate will be awarded by Academies Australasia College.