

inspiring success



2019 ACS ACCREDITATION PILOT MANUAL

Volume 3: Application Template

TABLE OF CONTENTS

1 INTRODUCTION	3
1.1 Terminology	4
2 STANDARD OF APPLICATION	5
3 APPLICATION TEMPLATE	5
1. Accreditation Request.....	7
2. Institutional Context of ICT Programs.....	8
2.1 Institutional Commitment to ICT Education	8
2.2 ICT Academic Leadership and Staffing	8
2.3 ICT Student Profile	9
2.4 Technological Resources for ICT Education	9
2.5 Monitoring, Review and Improvement.....	9
2.6 Action from Previous Accreditation	9
2.7 Development Plan.....	9
3. ICT Program Design and Implementation	10
3.1 Program Specification	10
<i>Criterion A. Program Design</i>	10
<i>Criterion B. ICT Professional Role and Skills</i>	12
<i>Criterion C. Coverage of ICT Knowledge</i>	13
<i>Criterion D. Advanced ICT Knowledge Addressing Complex Computing</i>	14
<i>Criterion E. Integrated and Applied ICT Knowledge and Skills</i>	15
<i>Criterion F. Preparation for Professional ICT Practice</i>	15
3.2 ICT Program Implementation Pathways	15
Version History.....	16

1 INTRODUCTION

The Australian Computer Society (ACS) is the authority responsible for the accreditation of professional ICT education programs in Australia.

The ACS is accredited by the International Professional Practice Partnership (IFIP IP3).

The ACS is a signatory to the Seoul Accord. The Accord signatories accord mutual recognition to their respective accreditation schemes for undergraduate and postgraduate (master's level) (degree) programs for initial professional practice. The Seoul Accord Graduate Attributes have been incorporated within the ACS Core Body of Knowledge (2015, Appendix D). This mapping ensures that a program satisfying the ACS accreditation criteria will satisfy the Seoul Accord criteria and forms the substance of the ACS adherence to the Accord.

This document forms part of a new ACS approach to accreditation that is authorised for use during a pilot phase, while reforms are evaluated and reviewed. Participating institutions are asked for feedback and input. During the pilot phase, the institution may otherwise opt to continue with pre-existing ACS accreditation processes and requirements.

The ACS is seeking a Memorandum of Understanding with Australia's Tertiary Education Quality and Standards Agency (TEQSA) and accredits higher education programs in ICT as a discipline-specific application of the *Higher Education Standards Framework (Threshold Standards) 2015* administered by TEQSA.

The 2019 ACS Accreditation Pilot system is specified in 3 volumes:

Volume 1: Accreditation Procedure

Volume 2: Accreditation Criteria

Volume 3: Application Template

This document, *2019 ACS Accreditation Manual Volume 3: Application Template* has been created to assist educational Institutions to prepare their accreditation application. These guidelines must be read in conjunction with the

ACS Accreditation Manual: Volume 2: Accreditation Criteria.

The key objective of the Application documentation is to provide primary evidence that a program and its institutional context satisfies the accreditation criteria set for assessment of professional ICT education programs. The submitted documentation will be a coherent self-analysis, reporting against the criteria for accreditation. Each criterion must be addressed in a definitive manner and be sufficient for the evaluation panel to form a judgment on it.

The accreditation process is focused on systems and programs that are already in place, not to require their creation. To this end much of the documentation requested should already exist and not require specific research or development.

Wherever possible, applicants should link to existing digitally-accessible resources rather than replicate them.

1.1 Terminology

For the purposes of the ACS Accreditation Manuals the following terminology is used:

AC The Accreditation Committee of the ACS.

ACS The Australian Computer Society.

AQF Australian Qualifications Framework (<https://www.aqf.edu.au>).

Accreditation Types

Accreditation recognises programs that prepare graduates for professional practice in ICT. *Professional* level for initial practice, *Advanced* for a higher level of expertise and *Specialist* accreditation for expertise in a particular specialisation.

See Volume 2, Sections 3.2, 3.3 and 3.4 respectively.

SFIA Skills Framework for the Information Age, current version (<https://www.sfia-online.org/en>).

Bloom's Taxonomy Anderson, Lorin W (2001) *A Taxonomy for Learning Teaching and Assessment: Revision of Bloom's Taxonomy of Educational Objectives* Longham.

HESF Higher Education Standards Framework 2015 (<https://www.teqsa.gov.au/higher-education-standards-framework-2015>).

TEQSA Tertiary Education Quality and Standards Agency (<https://www.teqsa.gov.au/>).

IFIP IP3 International Federation of Information Processing; International Professional Practice Partnership (<https://www.ipthree.org>).

Seoul Accord Seoul Accord establishes international standards for ICT graduate outcomes and a basis for international recognition of ACS accredited programs (<http://www.seoulaccord.org/>).

Institution The Higher Education provider that is responsible for, or is applying for, the accreditation of an ICT program.

ICT School That part of the Institution responsible for the education of ICT graduates.

ICT Industry Advisory Board

A body to provide advice on industry requirements of ICT graduates, program content, industry trends and the institutions interactions with industry.

ICT Industry Liaison

A role in the institution with oversight of industry interaction with a program, including organising ICT Industry Advisory Board meetings and consultations; industry projects, internships and placements; industry guest lectures, visits and so on.

Program A structured set of subjects and/or majors leading to a recognised AQF qualification. In some institutions a program is called a course, or a degree.

Development Plan	An institution's schedule of activities and issues that may affect ACS accreditation.
Major/ Specialisation	A structured set of subjects which address the complexities of a specific part of the ICT field.
Subject	A subject is also known as a course or unit. It is a component of a program in which a coherent body of knowledge taught and assessed as a whole. Where quantification is required, a subject is one eighth of one Equivalent Full-Time Student Load (EFTSL) being 'a measure of the study load, for a year, of a single student undertaking a course of study on a full-time basis' (https://www.teqsa.gov.au/glossary-terms).
ICT Subject	A subject which assesses knowledge from the essential or general areas of the CBoK or ICT Discipline-specific knowledge (see Accreditation Manual <i>Volume 2, Criterion C</i>)
ICT-related Subject	A mandatory subject with little or no specific ICT content may be considered ICT-related if it is necessary for the achievement of a program's ICT outcomes, for example, a subject that is clearly a prerequisite for a later mandatory ICT subject. An ICT-related subject cannot merely provide a context for ICT to be applied.

Wherever possible the ACS will use the terminology of the institution seeking accreditation, however, for consistency, the above terminology is used throughout the Accreditation Manual.

2 STANDARD OF APPLICATION

The Seoul Accord, an agreement between signatory countries, recognises comparability of accreditation systems and standards for professional ICT programs. The Accord is maintained through an ongoing program of mutual inspection and validation. It is possible at any time that the process of ACS accreditation of programs within any Australian institution may be subject to scrutiny and/or participation by observers from other Seoul Accord signatories.

Applications must be of a suitable standard for international audit. If the initial documentation is not considered to meet the following guidelines, the Institution may be asked to resubmit before a visit is scheduled.

3 APPLICATION TEMPLATE

While the ACS is not prescriptive about the format of the submitted documentation, it needs to be structured logically and aligned with the accreditation criteria.

The Template below is recommended as a means to present the data needed for accreditation. The template contains

- **headings** matching the criteria specification and

- *blue italicised* text providing explanation and suggestions to help in completing each section.

To use the template, delete the *blue italicised* text.

The Accreditation Panel may at any stage request further information.

1. Accreditation Request

Institution:	<i>Provide the full name under which the Institution operates and confers the qualifications resulting from the programs to be accredited.</i>
<i>Name of Institution</i>	
<i>CEO</i>	
<i>Institution Address</i>	
<i>Telephone</i>	
<i>Institution Web Site</i>	

ICT Teaching entity:	<i>Provide details of the college/faculty/school/department structure responsible for offering the program(s) for accreditation. Room is provided to allow a three-level description of the organisation entity - please provide the type of entity (e.g. faculty or department) and its name (e.g. School of Computing and Mathematical Sciences).</i>
<i>Level 1</i>	
<i>Level 2</i>	
<i>ICT Teaching Entity</i>	
<i>ICT Entity Web Site</i>	
<i>Head, ICT Teaching Entity</i>	
<i>Address</i>	
<i>Telephone</i>	
<i>E-mail address</i>	

Programs:	<i>Provide a list of programs submitted for accreditation. Level refers to the level of award (e.g. AQF 7, AQF 8, AQF 9). Type refers to the ACS accreditation sought (Professional, Advanced Professional or Specialist).</i>		
<i>Title of Program</i>	<i>Campus</i>	<i>Level</i>	<i>Type</i>

Institution Contact:	<i>Provide details of the primary contact and person responsible for this application. All contact from the Association will be through this person.</i>	
<i>Name</i>		
<i>Title</i>		
<i>Address</i>		
<i>Telephone Number(s)</i>		
<i>E-mail address</i>		

2. Institutional Context of ICT Programs

This section of the template identifies the sort of evidence that the institution can provide which would allow the Accreditation Panel to assess the institutional context for ICT Education. Where the institution provides links to documents or information, please ensure that the appropriate permissions to the relevant sections of the institution's systems are available to ACS panellists.

2.1 Institutional Commitment to ICT Education

Strategic Statement of Institutional Support

Linking to an Institution mission statement and strategic plans may provide evidence of the Institution's long-term commitment to ICT. If necessary, a statement from the institution's president or CEO may be needed.

ICT School Planning and Review

Documents embodying the School's strategic directions for ICT education, industry engagement, research and other professional activities are useful evidence.

A Development Plan is important - see 3.1.7 below.

Link to documents associated with the most recent School or curriculum review.

The ICT School – Structure and Institutional Context

In order for the panel to better understand the larger context of ICT programs, outline the organisational structure of the School, including management roles and incumbents, and how it interacts with the institutional structure (Faculty and Institutional committees, etc).

A way to show how the structure works is to link to documents of a recent change to an ICT program or subject as this shows the effectiveness of the school in its process of continuous improvement.

Educational Location and Partnerships

List all campuses at which this program is offered. Include online as a separate campus. Explain why these locations are appropriate.

2.2 ICT Academic Leadership and Staffing

Leadership

The panel will come to an opinion on this criterion during the visit.

Staffing

Link to the staff directory for the ICT School.

Identify the key staff involved in teaching subjects that prepare graduates for the identified ICT Professional Roles. Indicate their campus, level of appointment, employment type (full time, fractional or casual; continuing or contract) and gender.

Staff Qualifications

Linking to a short CV for each of key staff members identified above would provide evidence of the appropriateness their expertise.

2.3 ICT Student Profile

While there are no specific ICT accreditation criteria beyond HESF Section 1.3, the pane needs to have an understanding the student profile. Please provide an indication of the EFTSL in each program by campus and data concerning student progression (admission and graduation data).

2.4 Technological Resources for ICT Education

Identify specific ICT facilities, including laboratories, specialised technology and software in active use for teaching. Show how these facilities are related to current industry practice. Indicate the technical support for these facilities, the training for staff and the level of student access to ICT facilities. Link to school policies regarding the use of technology in education.

2.5 Monitoring, Review and Improvement

Link to the mechanism(s) for seeking advice from the ICT industry, alumni, the community and professional bodies. Link to agendas and minutes of meetings of the ICT Industry Advisory Board demonstrating their input into program. Link to recent internal reviews of the ICT School and its program. Any responses to other accrediting bodies including TEQSA may be useful.

2.6 Action from Previous Accreditation

Provide a response to the recommendations in the previous accreditation.

2.7 Development Plan

Review Section 3.1 of the Accreditation Manual Volume 1 Accreditation Procedure. Provide the Development Plan to show the strategic and well as operational development of the ICT programs. In particular, indicate the changes underway to address any program deficiencies detected as part of the accreditation self-analysis and ACS evaluation. To be credible a Development Plan should include clear actions, responsibilities and dates, and be authorised at senior level.

ACS ACCREDITATION TEMPLATE

3. ICT Program Specification and Implementation

This section of the template identifies the information that specifies each program. In this section of the template demonstrate how the program has been structured to develop the Professional Knowledge, Skills and Application of knowledge and Skills required to achieve the program's ICT professional objectives.

***Prepare one response for each program.
Where there are multiple majors within a program which target different job roles,
prepare one specification for each major.***

Program Details

Program Code:
Award Title on Testamur:
Award Title on Transcript:
Program Coordinator:
ICT Industry Liaison:

Subject Documents and Teaching Materials

*Provide a link to the **institution-approved document(s)** that specify each subject including, or as well as, all assessment and how it is matched to subject learning outcomes.*

Provide read-only, auditor level access to the Learning Management System. This access is used to review and assess the teaching and learning as it applies to accreditation criteria.

3.1 Program Specification

Criterion A. Program Design

Program Objective and Outcomes

*Provide a link to the **institution-approved document(s)** that specify the program's approved objectives and learning outcomes (including the institution's graduate outcomes), entry requirements and structure.*

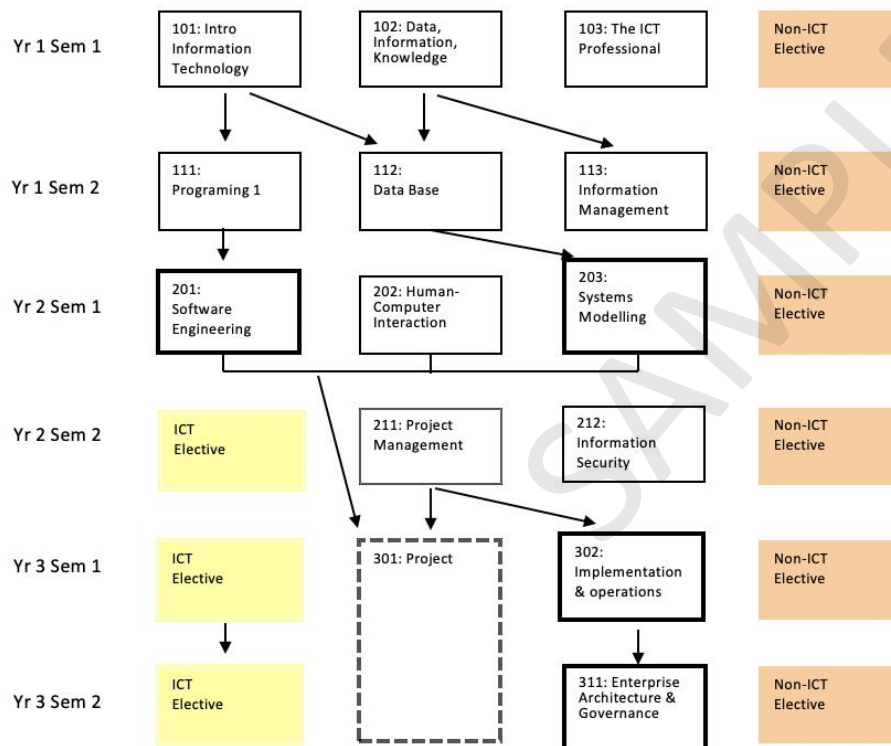
Provide links to other relevant published material that refer to the program (advertising, etc).

Program Components and Structure

Link to, or if necessary, create, information that identifies:

- **mandatory ICT** subjects, **elective ICT** subjects and **non-ICT** subjects (perhaps use colour coding).*
- prerequisite knowledge links (both hard prerequisites and assumed knowledge).*

A sample diagram is:



Notice the darker border on boxes to denote Advanced Subjects (see criterion D) and the dashed border on boxes to denote Integrated and Applied subjects (criterion E).

Provide a list of any mandatory ICT subjects that may be sourced from external providers (eg. through articulation arrangements, partnerships, etc.)

Explain how the assessment of individual subject learning outcomes aggregate to ensure that learning outcomes for the program as a whole are met.

Justification of Program

Provide a link to documents that explain the rationale for the program (perhaps a recent program review).

In particular, how the program is related to needs of stakeholders including ICT industry and the community, trends in professional practice and comparisons with programs of a similar nature available nationally or internationally. Link to any further documents about the program that may assist the panel to evaluate its fit with its professional environment.

Coherence of title, objectives, components and structure to aligned with the attributes of the graduate and the student intake.

Criterion B. Professional ICT Role and Skills

Identify the primary ICT professional role that a graduate is equipped to perform on graduation. While aspirational roles (such as CIO, project manager) have a purpose in indicating a career path for graduates, the job role identified here will be one to which the graduate is immediately suited.

Useful sources describing job roles include:

European ICT Professional profiles (e-CF)

<http://www.ecompetences.eu/ict-professional-profiles/>

ACS ICT Skills white paper (2013)

<https://www.acs.org.au/insightsandpublications/publications.html>

Queensland Government Career Streams (2017)

<https://www.ggcio.qld.gov.au/information-on/workforce-planning/ict-career-streams>

ACS Digital Pulse (2018)

<https://www2.deloitte.com/au/en/pages/economics/articles/australias-digital-pulse.html>

ANZCO ICT Occupations

<https://www.acs.org.au/msa/information-for-applicants.html>

The ICT Industry Advisory Board will be an important source. Where graduates are being prepared for entry-level professional work in a particular industry context, such as health, local government, manufacturing, SME, education, etc. an appropriate job role may need to be created.

If an ANZCO ICT Occupations Code has been Identified, list it.

ICT Skills for Professional Role

The ACS uses SFIA as a specification of skills and levels of skill in ICT. There are other schemes such as the European c-Competence Framework (<http://www.ecompetences.eu>) that may be used.

Identify 1 or 2 primary SFIA skills needed for the above professional role. Map each SFIA Skill to the most significant mandatory subjects that assess it (at least one skill must be assessed at SFIA Level 3 or above). Identify **up to 3 subjects only**, perhaps a theory subject, one for skill development and an advanced, applied one.

C. ICT Skills for Professional Role	ROLE:	
	SFIA Skill Code	SFIA level
		Subject Code & Title

Note that upper-level SFIA skills require organisational and managerial activity and experience that cannot normally be gained in an academic subject. For example, a claim that an undergraduate second-year subject in web development is at SFIA level 5 would be difficult to support. Equally, some SFIA skills that may be important for your program do not have lower level specifications. In this case interpret the general description of SFIA level to arrive at a level you think appropriate (eg. a subject called Advanced Software Development Management addresses the skill Software

Development Process Improvement, but that skill has no specific SFIA level 3 specification, so use the general description of SFIA level 3, Apply).

Many institutions map most of their subjects to SFIA for internal QA purposes, for packaging subjects as modules for industry professional development, 'micro-credentialing' and other uses. If that is the case, please link to that mapping rather than re-develop it.

Criterion C. Coverage of ICT Knowledge

To demonstrate how the program develops the coverage of professional knowledge required by the CBoK Knowledge Areas, use a grid (see sample below) to map CBoK knowledge areas the most significant mandatory subjects that assess those areas (at least one subject must be assessed at Bloom's level 4 or above). Identify **only 1 or 2 of the most significant subjects**, perhaps one that assesses the topic in depth and one that assess its application.

BIT (Application Development)		IT1239 Professional Communications Skills for ICT	IT2208 ICT Project Management	IT1223 Information Technology and Society	IT1238 Networked Infrastructure Foundations	IT2203 Workflow Analysis & Management	IT1237 Database Design	COIT 13234 Mobile Software Development	IT2207 Internet Applications	IT3229 Applied Distributed Systems	COIS13013 Business Intelligence	IT3235 Enterprise Software Development	IT3232 Business Analysis Project	IT3239 Undergraduate
Professional ICT Knowledge Shows the level of assessment of CBoK knowledge by subjects. Bloom's taxonomy levels of cognitive process assessed: 1. Remember, 2. Understand, explain 3. Apply 4. Analyse 5. Evaluate 6. Create Essential CBoK Knowledge ■ General CBoK Knowledge ■														
Knowledge Areas	Topics													
ICT Professional Knowledge	Ethics			3										4
	Professionalism			3										4
	Teamwork concepts and issues		5											4
	Interpersonal Communications	4		3										
	Societal Issues			3	3									
	The ICT Profession	2												2
ICT Problem Solving	Modelling, abstraction, design					3								3
Technology Resources	Hardware & software			2										
	Data & information Management				2	4								
	Networking			2										
Technology Building	Human Factors		2											3
	Programming					3								4
	Systems development					4								4
	Systems acquisition		2		2									
ICT Management	IT governance										2			
	IT project management		4											3
	Service Management					2								2
	Cyber Security							3						3

There are alternatives to Bloom that are appropriate indicators of the depth of assessment; eg.

- Biggs SOLO taxonomy or
- Webb's "depth of knowledge" guide.

If one of these is used rather than Bloom, link to a document explaining it.

Justification of the Coverage of CBoK

Demonstrate that **CBoK Essential Core ICT Knowledge** areas are covered in depth and are developed through the program.

Explain the profile of coverage of the **CBoK General ICT Knowledge** area with respect to the objectives of the program and the professional role it addresses.

Indicate the use of external curricula, standards and other sources that provide a form of warrant for the **Discipline-Specific Knowledge** being taught (eg. ACM, SwEBoK, ISO9001, Privacy Principles, PMBok, etc.).

A useful source of curricula is <https://www.acm.org/education/curricula-recommendations>.

Criterion D. Advanced ICT Knowledge Addressing Complex Computing

Review the requirements for advanced ICT knowledge to address complex computing.

Identify subjects that are assessed at an advanced level that are **targeted specifically** at the SFIA skills identified for this program (exclude the advanced subjects used in Criterion E).

Identify the assessment item(s) that assess ICT knowledge at advanced level (at least Blooms level 4). Then explain which Seoul Accord criteria of complex computing are addressed by each assessment item (see Criterion D in Volume 2 of the Accreditation Manual).

E Advanced ICT Subjects Addressing Complex Computing		
Subject Code & Title	Assessment Item	Complex Computing Criteria met

The Accreditation Panel will review the subject(s) and sample student work against the criteria and look for where a student has, earlier in the program, developed the skills and knowledge needed to succeed in the subject(s).

Criterion E. Integrated and Applied ICT Knowledge and Skills

Review the requirements for integrated and applied ICT knowledge.

*Identify the advanced subject(s), often a capstone, that provide and assess the integration of knowledge and skills **specifically targeted** at the professional role identified for this program.*

F. Integrated & Applied ICT Knowledge	
Subject Code & Title	Notes in support of Claim

The Accreditation Panel will review the subject(s) and sample student work against the requirements and look for where a student has, earlier in the program, developed the skills and knowledge needed to succeed in the subject(s).

Criterion F. Preparation for Professional ICT Practice

Show how the program develops a well-rounded professional with respect to the attributes listed in Criterion F of Volume 2 of the Accreditation Manual.

3.2 ICT Program Implementation Pathways

In this section of the template, present any information needed to explain and justify any relevant aspects of the program implementation pathways referred to in Section 3.2.2 of the Accreditation Manual Volume 2 Accreditation Criteria

Version History

Date	Document Version	Revision History (reason for change)	Author /Reviser
2 Oct 2013	1.0	Creation of original document	
4 Apr 2014	1.1	Formatting updates	Graham Low
10 Nov 2015	1.2	Changes to section 3.2.3	Graham Low
19 Feb 2016	2.0	Version update in alignment with CBOK release	Berny Martinez
31 Jan 2019	4.0 Pilot	Complete revision: clarified criteria, aligned with TEQSA, simplified application	Craig McDonald
12 Aug 2019	4.2 Pilot	Minor revisions – pilot feedback	Craig McDonald

APPROVALS

Date approved	Version:	Approved By	Date in force	Next Review Date
15 Dec 2015	1.2	Professional Standards Board	15 Dec 2015	n/a
19 Feb 2016	2.0	Professional Standards Board	19 Feb 2016	n/a
1 Feb 2019	4.0 Pilot	Management Committee	22 Feb 2019	n/a
12 Aug 2019	4.2 Pilot	Rupert Grayston, Director PSAS	13 Feb 2019	n/a

Custodian title & e-mail address:	Rupert Grayston, Director Professional Standards and Assessment Services Rupert.Grayston@acs.org.au
Responsible Business Group:	
Distribution:	Public document
Content Security:	N/A.