ACS 2023 Accreditation Outcomes Report

and guidance for preparing an accreditation application in 2024

ACS promotes quality in ICT-related higher education to meet future industry needs. ACS sets graduate standards, provides support for improvement in higher education and gives recognition to quality programs through structured review and accreditation of ICT-related degree and master programs.

This report offers guidance to institutions preparing for accreditation, with learnings from the outcomes of ACS accreditation cases through 2023.

ACS Accreditation underpins the calibre of future professionals who will be relied on for expertise and professionalism in digital and technology-related disciplines.

ACS accreditation strengthens ICT higher education. ACS accreditation is awarded to an institution and its programs after rigorous evaluation of their capacity to produce graduates who have the knowledge and skills required of an ICT professional. Not all ICT programs achieve ACS accreditation, and many are required to address shortcomings within set time frames to maintain accreditation status. The process is a stimulus for rigour in program design and a filter for those not able to meet the standards.

[Click here for an overview](#) of the ACS accreditation scheme and processes.
[Click here for full details](#) of ACS Accreditation.

Benefits of ACS accreditation:

With a growing range of tech-related courses on offer, ACS accreditation provides quality assurance and a marketing edge for degree and master programs. Internal reviewers can be reassured that program design is robust and meets market needs. Industry can be confident that the qualification is founded on sound curriculum, specialist teaching capability and effective industry linkage.

Students can be reassured that their qualification has industry recognition with ACS accredited courses also being recognised internationally by other signatories to the **Seoul Accord**. International students can be reassured that their qualification aligns with an appropriate ANZSCO code for skilled migration purposes. The **ACS Accredited Courses** listing provides recognition and differentiation from non-accredited courses.

Key areas for improvement in 2023 accreditation cases

2023 Accreditation Outcomes
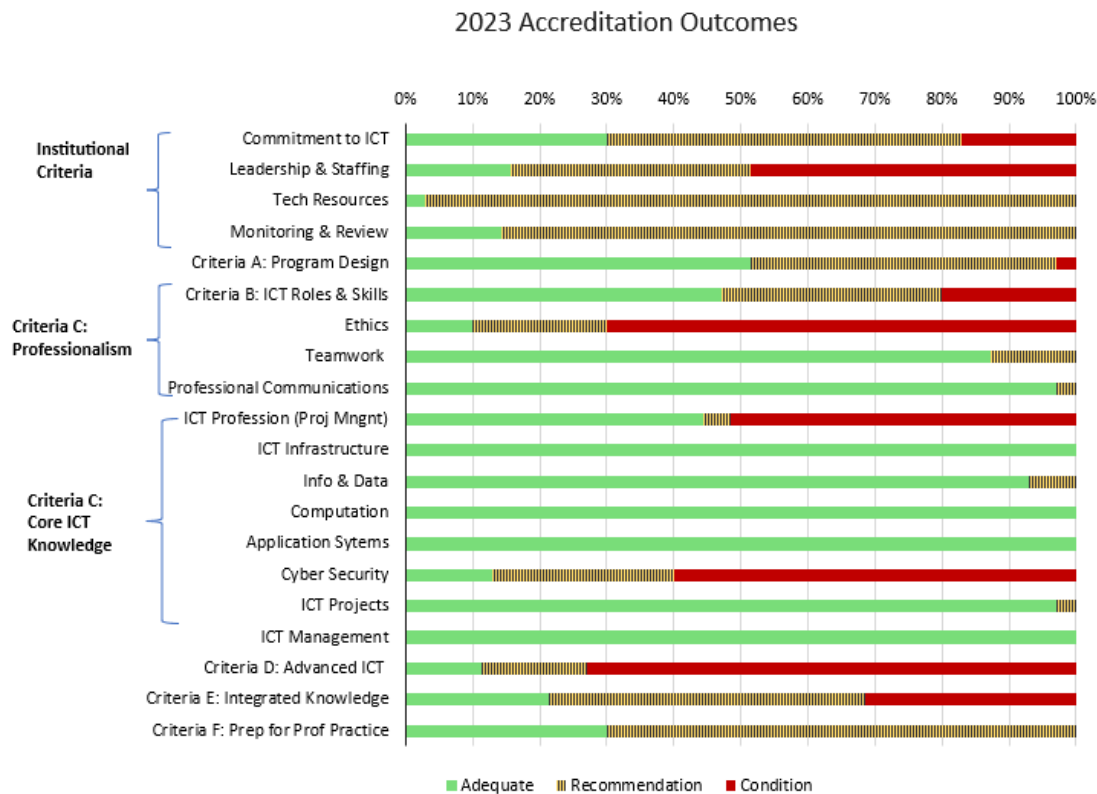
Five areas stand out as raising conditions in more than half of the programs assessed for accreditation in 2023:

Criterion C: Professional Ethics
This has been an ongoing area for improvement in accredited programs. Professional ethics (ie, not only research ethics, and not only personal ethics) continues to be taught lightly or not at all in many programs. Recent Australian and international cases such as Robodebt, generative AI tools, and military applications of AI shows that tech professionals must have a solid ethical education founding to guide professional behaviours and choices.

The new ACS Ethics Education web page with links to a new *ACS Ethics Education Program* has been designed as a resource to help build this capability in technology professionals – current and emerging. *Module 1 Build competencies and confidence* offers five hours of online learning and resources for student engagement with the *2023 ACS Code of Professional Ethics*. This is an optional teaching resource, not a curriculum or a formal ethics course. This is an optional teaching resource, not a curriculum or a formal ethics course.

For questions, suggestions or feedback regarding the ACS ethics education page and program, please email: professionalethics@acs.org.au.

Please note: in March 2023 ACS adopted a newly revised Code of Professional Ethics. For information and links, refer to the **ACS Professional Ethics, Conduct and Complaints** web page.

Section 3.1.2: Institutional leadership and staffing

Lack of expertise to provide and maintain specific majors, and instability at the leadership level, are common shortcomings. Staffing considers the number of ICT program staff, the number of expert staff in each specialised program or testamur-named major, and the academic level and stability of academic leadership for the ICT school or its equivalent. Maintaining the quality of a professional academic program requires ongoing updating and development, enabled by sufficient staff capacity and expertise, and academic direction with experience and weight in the institution.

Criterion C: ICT Profession (**Project Management**)

Project management must be taught and assessed and reinforced by experience. All areas of technology work requires professionals to understand their own work and to be able to work effectively and efficiently in a team, at a higher achievement level than a simple sum of individuals' work; understanding the tools for managing teams, and for planning and managing their efforts on projects, are essential preparation for a technology professional.

Criterion C: Cyber Security

The past few years show that security of information systems of all kinds is essential, and that all ICT professional workers share responsibility, whatever their specialty. 60% of programs evaluated required improvement in this area.

Criterion C: Advanced IT

The structure of a professional degree in ICT requires the development of knowledge and skills in depth. This is indicated by subjects that achieve depth, by having a chain of prerequisite subjects, reaching advanced levels of learning, including complex computing such as open-ended, real-world problems, and developing specific professional skills.

This requirement continues to be a surprisingly frequent area where programs fall short.

Making Your Accreditation Journey Smoother

- Start early
- Organise access to LMS early and if necessary, enlist senior staff to speed up the process
- If access to marked assessments is not possible, send sample assessments early
- Do not provide more information than requested – where possible link to existing online information
- Engage academics in thinking about CBOK, SFIA skills and advanced subjects – professional staff should not be filling in these sections of the submission
- Ensure that experiences across multicampus institutions are equivalent
- Ensure that staff at the main campus talk to other campuses sufficiently often that they are aware of and act on the multiple problems that often arise at these campuses

Avoiding Potential Loss of Accreditation

Most institutions have conditions placed on one or more of their programs, together with due date(s) for meeting these conditions. Senior staff in the faculty and institution should be informed immediately that not meeting these conditions on time will lead to loss of accreditation. While the dates are negotiated with the institution, sometimes the staff may need help to undertake the necessary work involved in meeting the conditions on time. Senior institution staff must be prepared to provide whatever support may be needed.

Changes in ACS Accreditation

ACS Accreditation continues to evolve and adapt to the changing IT landscape. The following are some of the changes happening:

Volume 2
A minor revision has been made to ACS Accreditation Criteria Volume 2 which includes some rewording edits on Criterion A, D and section 3.2.2.

Volume 3
Application Template Volume 3 also went through minor changes. The revised version (version 5.4) is currently available on the ACS website. Institutions currently preparing to submit an application are encouraged to use the new version of Volume 3. Though the current version is acceptable, applicants in 2025 must use the new version 5.4.

Advanced Accreditation
ACS Advanced Professional level accreditation will be phased out this year. No further intake will be accepted. Institutions currently preparing for this type of accreditation should get in touch with the ACS immediately through the accreditation email below.

ACS Position on Generative AI

ACS believes all students should have opportunities to learn about GenAI - how to use it responsibly. Institutions should have a policy on GenAI, however, ACS will not use either the presence or absence of GenAI policies as a criterion in the accreditation of the program. Regardless of an institution's policy, in light of the ease of access to Gen AI, it is expected that institutions will make appropriate adjustments to relevant assessments in order to maintain academic integrity.

ACS' International Alignment

ACS is a signatory to the international Seoul Accord, which sets and monitors standards for higher education technology programs. ACS certifications are accredited by IP3, an international standard setting body for ICT professional certifications, but few other technology professional bodies have taken this up.

ACS has entered into an MoU with ITP-NZ (IT Professionals New Zealand) to offer Seoul Accord recognition for programs from New Zealand institutions, subject to Seoul Accord approval in June. ITP-NZ has been a provisional signatory to the Seoul Accord for some years but is unable to sustain this directly.

Technology Landscape

ACS Accreditation Criterion B: *Professional Roles and Skills* expects accredited programs to be designed to produce graduates aligned with specific tech professional roles; there is however a challenge in keeping technology programs contemporary with the local and international technology landscapes continues to change rapidly. This snapshot provides some reflections with links to sources of information on trends, skills in demand and job roles.
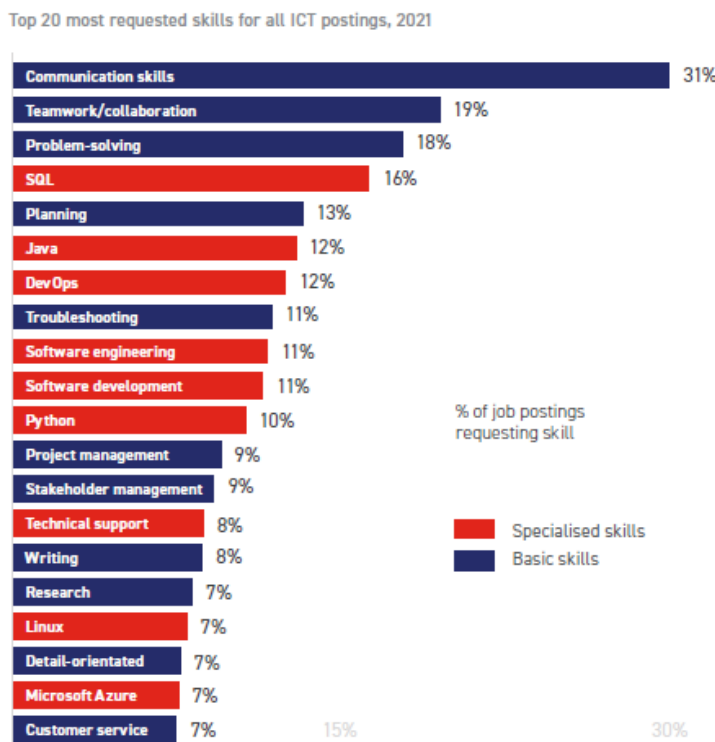
ACS Digital Pulse 2023 advises that there were 928,000 people employed in the Australian technology workforce in 2022, with a net increase of 57,600 (6.6%) in that year alone. It forecasts that taking into account current trends in retirement, migration, graduation and reskilling, Australia's technology sector will need an additional 205,000 workers by 2030. This rises to an additional 237,000 workers if Australia were to match levels of spending on critical technology in the USA (proportionate to GDP). Digital Pulse notes that with 7% year-on-year growth in job advertising for technology workers and increasing recruitment difficulty and labour shortages across the economy, concerted action is needed to address technology skills needs.

ACS Digital Pulse 2023 notes that 'the number and types of skills needed for the emerging technology workforce of 2030 will look vastly different to those is use today'. Technical skills associated with AI and data analytics are projected to dominate, but people skills will continue to be essential, making up three of the top five most demanded areas of skill by 2030; these include communication skills, teamwork and problem solving.

ACS Digital Pulse 2023 identifies that tech skills are needed across the workforce, and that new roles will be created from critical technologies. One of the biggest areas of additional skills requirements will come from Artificial Intelligence (AI). One of the most disrupted sectors will be the tech sector itself. The sector has a history of disruption, adaptation and upskilling, but this highlights that the tech skills shortages will not be solved by sufficient people in tech occupations; sufficient technology professionals with critical skills are needed.

ACS Guide to IT Professions 2022 notes the following top 20 in-demand skills in technology job postings. The top three skills are communication, teamwork/collaboration and problem-solving. A number of these skills are transferable across occupation families. Nine of the 20 top fastest-growing skills in demand in technology (in red below) are however specialist tech skills including programming languages for data analysis, cloud services, website development and software development. Technology professionals need a broad non-technology skills foundation and, parallel, must continue to develop their skills in emerging or critical technologies.

Top 20 most requested skills for all ICT postings, 2021

Skill	%
Communication skills	31%
Teamwork/collaboration	19%
Problem-solving	18%
SQL	16%
Planning	13%
Java	12%
DevOps	12%
Troubleshooting	11%
Software engineering	11%
Software development	11%
Python	10%
Project management	9%
Stakeholder management	9%
Technical support	8%
Writing	8%
Research	7%
Linux	7%
Detail-orientated	7%
Microsoft Azure	7%
Customer service	7%

% of job postings requesting skill

Specialised skills
Basic skills

ACS Digital Pulse 2023 (through data from Lightcast) observe the following are the 20 largest technology occupations:

20 largest ICT occupations	2021 postings	2021 postings share
Software Developer/Engineer	31,725	22.9%
Computer Systems Engineer/Architect	16,071	11.6%
Data/Data Mining Analyst	11,532	8.3%
Operations Analyst	8,706	6.3%
Computer Support Specialist	8,097	5.8%
Systems Analyst	7,290	5.3%
IT Project Manager	5,234	3.8%
Cyber/Information Security Engineer/Analyst	4,843	3.5%
Business Intelligence Analyst	4,776	3.4%
Network/Systems Administrator	4,202	3.0%
Chief Information Officer/Director of Information Technology	3,833	2.8%
Database Architect	3,770	2.7%
Software QA Engineer/Tester	3,687	2.7%
Database Administrator	3,263	2.4%
Network Engineer/Architect	3,088	2.2%
UI/UX Designer/Developer	2,630	1.9%
Web Developer	2,580	1.9%
Technology Consultant	2,516	1.8%
Network/Systems Support Specialist	2,202	1.6%
Computer Programmer	2,005	1.4%

Lightcast also reports significant variation in growth rates in technology occupations, with the highest growth being in data and cybersecurity related occupations.

Fastest growing ICT occupations	2021 postings	2016 postings share	2021 postings share	2016 to 2021 Growth
Database Architect	3,770	0.9%	2.7%	191%
Data Warehousing Specialist	588	0.2%	0.4%	174%
Data Scientist	1,128	0.4%	0.8%	113%
Cyber/Information Security Engineer/Analyst	4,843	2.0%	3.5%	77%
Data/Data Mining Analyst	11,532	5.7%	8.3%	46%
Computer Systems Engineer/Architect	16,071	10.0%	11.6%	16%
Security Management Specialist	1,976	1.3%	1.4%	13%
Software Developer/Engineer	31,725	21.4%	22.9%	7%
Network/Systems Support Specialist	2,202	1.5%	1.6%	5%
Technology Consultant	2,516	1.7%	1.8%	5%

ACS General Update

ACS is proud to announce a new partnership with [Pearson](#). Pearson are one of the world's leading education publishers and online stores. They create vibrant and enriching learning experiences designed for real-life impact. ACS members now receive a 20% discount on titles from eligible subject areas such as Careers & Trades, Computer Science, Information Technology and Personal & Professional Development.

More than 160 million users worldwide trust Pearson products and services. Whether it's upskilling in the workplace, getting ahead in school, or making the grade at university, their products and services help people realise the life they imagine every day.

- They strive to create vibrant and enriching digital learning experiences designed for real-life impact.
- Their strategy is to evolve from printed to fully digital solutions. Not only is this good for learners like yourself with better access, affordability, and outcomes, but it reduces their carbon footprint as well.
- Their comprehensive Global Content and Editorial Policy ensures that their learning materials are relevant and reflect the diversity of their students.
- They design products based on learning science research - with teams of learning scientists, learning designers, and senior researchers - to ensure their products are built for learning and helping learners achieve outcomes that matter to the people using them.

The discount, can be accessed through the Member Benefits section of the member portal.

For further information, please contact: Partnerships.Team@acs.org.au

For further information on this report, please contact:
accreditation@acs.org.au or +61 (0) 2 9299 3666

[ACS Accreditation for Higher Education](#)
[ACS Code of Professional Ethics](#)