INFO1111 Computing 1A: Professionalism

Complete Study Notes

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INFO1111 Computing 1A: Professionalism – Complete Study Notes

These notes cover the examinable content of INFO1111 Computing 1A: Professionalism (Weeks 1–5), plus the integration lecture and key career insights from the guest talks. The exam rewards applying concepts to scenarios, so each topic pairs the key frameworks with original examples showing how to use them.

How to use these notes

- **For the multiple-choice section:** know the definitions, lists and frameworks exactly. Pay special attention to the ACS Code values and the SFIA levels.
- **For scenario questions:** use the step-by-step method and practice scenario in the Exam toolkit. Always link your answer to named concepts.
- **Watch for "Apply it" boxes:** they show how a framework would be used in a real situation.

Topic	Key frameworks and ideas
The IT profession	Profession, practice, professionalism; ACS; career stages
Ethics	Teleology (egoism, utilitarianism), deontology (Ross's duties), contractarianism, pluralism; ACS Codes; ACM/IEEE-CS Code
Intellectual property and privacy	Trade secrets, copyright, patents, trademarks; software ownership; licences
Professional development	SFIA v9 (7 levels, 6 categories, 5 attributes); CPD; cognitive load theory
Problem solving	Understanding the real problem; functional vs non-functional requirements; requirement flaws; evaluation
Teamwork	Hackman, psychological safety, Salas' Big Five, Tuckman, Belbin, Theory X/Y
Collaboration	REVIEW criteria, academic integrity, Git and version control, project management
Communication	Transmission, interaction and transaction models; 7 Cs; SBAR; professional writing; presentations

1. The IT profession

An IT professional combines expertise with responsibility and ethics, using technology to solve problems and create value. Technical skill alone is not enough.

Core definitions

Term	Meaning
Knowledge	Knowing about something, or knowing how to do it
Skills	Being able to actually do it (competence and capability)
Expertise	**Knowledge + skills**

Term	Meaning
Profession	An occupation needing specialised education, expertise and practical skills, guided by ethical standards, often regulated by a professional body, and serving the public (e.g. medicine, law, engineering)
Practice	Repeatedly applying knowledge and skills to build or maintain proficiency; also the actual work done in a profession
Professionalism	The conduct and attitude expected in a professional role: competence, accountability, ethics, reliability, respect

The building blocks of a profession are qualifications and certification, knowledge and skill standards, a common body of knowledge, and ethical standards.

Qualities of an IT professional: technical expertise, problem solving, ethical and responsible conduct, lifelong learning, communication and collaboration, and following professional standards.

The ACS (Australian Computer Society)

The ACS is the professional society for Australia's IT industry. It:

- runs education and networking events;
- offers certification;
- **accredits degrees**;
- assesses the skills of migrants;
- enforces professional standards of behaviour among members.

Membership level	Requirement
Student	Currently studying
Associate	Entry level
Member	Holds the Core Body of Knowledge, e.g. a graduate of an accredited degree
Senior Member	At least 10 years of professional practice

Membership level	Requirement
Certified Professional (recognition)	Passes a skills and competency assessment; must complete **30 hours of CPD per year** to keep the status

IT career progression

Stage	Example roles	Focus
Years 0–2: entry or graduate	IT support, junior developer, data analyst, QA tester, business analyst	Foundational skills, learning tools, working under supervision
Years 3–5: intermediate	Software engineer, systems analyst, DevOps or data engineer, cybersecurity analyst	Managing projects independently, mentoring juniors
Years 6–8: senior	Senior developer, solutions architect, tech lead, product manager	Leading teams, shaping direction, engaging stakeholders
Years 9–12+: leadership	IT manager, engineering manager, enterprise architect, CTO, CIO	Organisational strategy, aligning IT with business goals, budgets

Alternative paths: consulting, research (for example a PhD in AI), entrepreneurship (startups), or deep specialisation (cybersecurity, ML, blockchain).

Typical activities by category:

- **Technical:** coding, testing, debugging, prototyping, security.
- **Analytical:** troubleshooting, system design, data analysis, reporting.
- **Project and process management:** planning, Agile/Scrum, time and cost management, QA.
- **Collaboration and communication:** stakeholders, teams, user training, vendors, clients.
- **Learning and innovation:** evaluating new tools, adopting innovations, sharing knowledge.