

CBOK Topics (In-Depth)

- ICT Problem Solving
- ICT Project Management
- Professional Knowledge
 - ★ Ethics
 - ★ Teamwork Concepts and Issues
 - ★ Interpersonal Communication
 - ★ Societal, Legal, and Privacy Issues
 - ★ History and status of the Discipline

CBOK Topics (Role-Specific)

- Technology Building
 - ★ Programming
 - ★ Human Computer Interaction
 - ★ Systems Development
 - ★ Systems Acquisition

CBOK Topics (Role-Specific)

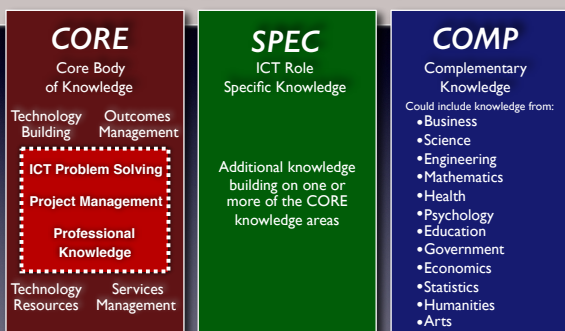
- Technology Resources
 - ★ Hardware and Software Fundamentals
 - ★ Data and Information Management
 - ★ Networking

CBOK Topics (Role-Specific)

- Outcomes Management
 - ★ IT Governance
 - ★ Change Management
 - ★ Security Policy
 - ★ Systems Acquisition
- Services Management
 - ★ Service Management
 - ★ Security Management

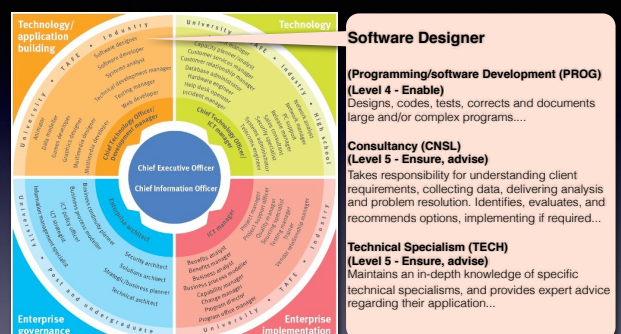
ACS CBOK ICT Building Blocks

SKILL - Graduate/Career Skill Sets (e.g. as defined in SFIA)



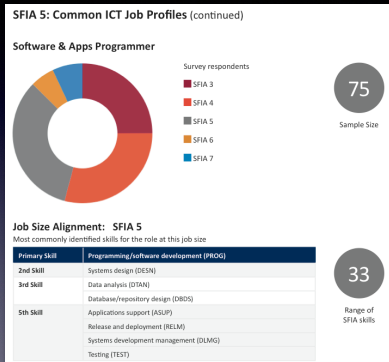
ACS (2012). The ICT Profession Body of Knowledge. Adapted from Gregor, S., von Konyk B.R., Hart, R., and Wilson D. (2008) The ICT Profession and the ICT Body of Knowledge, Australian Computer Society.

Queensland Government SFIA-based position descriptions



Queensland Government (2013) ICT Career Streams, <http://www.qgcio.qld.gov.au/products/ict-workforce-capability/careers-and-programs/ict-career-streams>

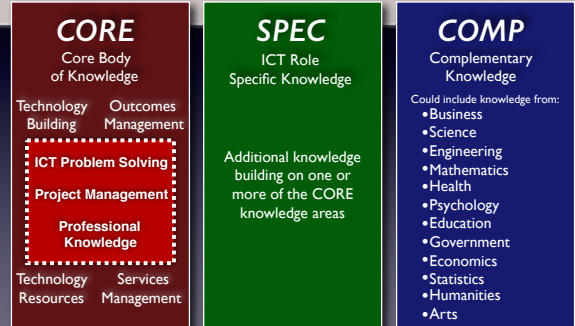
ACS survey of SFIA skills reported by members in various job roles



ACS (2013) Common ICT job profiles & indicators of skills mobility: ICT Skills White Paper, <http://www.acs.org.au/information-resources/ict-skills-white-paper>

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Data Scientist Consultant Career Role

Data scientists consult with clients to recommend and implement approaches leading to new insights and knowledge derived from large data sets to predict outcomes and inform decision-making.

Data scientists form and test hypotheses based on a statistically rigorous and repeatable methodology involving the analysis of information using statistics, statistical inference, regression analysis, and machine learning.

Data scientists apply specialist knowledge in a range of topics including statistics, statistical inference, high performance computing, parallel programming, graphics systems and visualisation.

Data scientists manage data requirements and establish and modify data structures leading to the retrieval, transformation, and analysis of data.

Data scientists ensure appropriate methods and tools are applied to retrieve, transform, curate, visualise, and analyse data and to build related data products.

Data scientists manage data science projects within agreed parameters of cost timescale, and quality.

SFIA Alignment

CNSL

RSCH

INAN

TECH

DTAN

METL

PRGM

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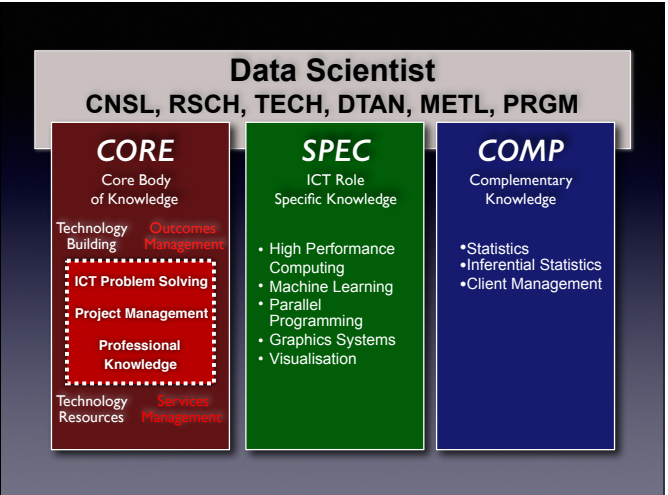
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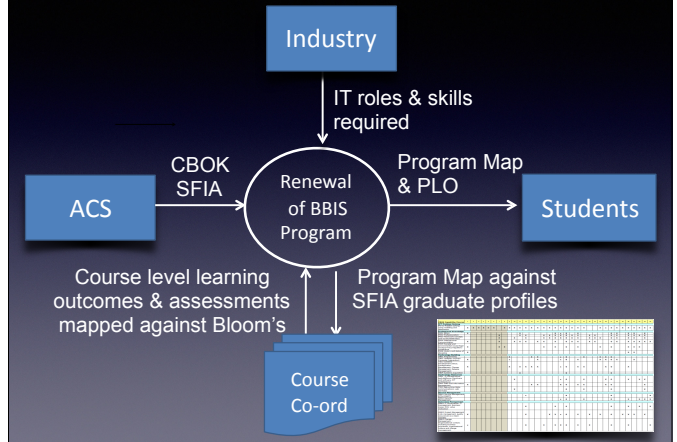
Data Scientist Consultant Career Role	Bloom's Level
Data scientists consult with clients to recommend and implement approaches leading to new insights and knowledge derived from large data sets to predict outcomes and inform decision-making.	Creating, Evaluating
Data scientists form and test hypotheses based on a statistically rigorous and repeatable methodology involving the analysis of	Analysing
Data scientists analyse data to discover and quantify patterns in information using statistics, statistical inference, regression analysis, and machine learning.	Analysing, Evaluating
Data scientists apply specialist knowledge in a range of topics including statistics, statistical inference, high performance computing, parallel programming, graphics systems and visualisation.	Applying
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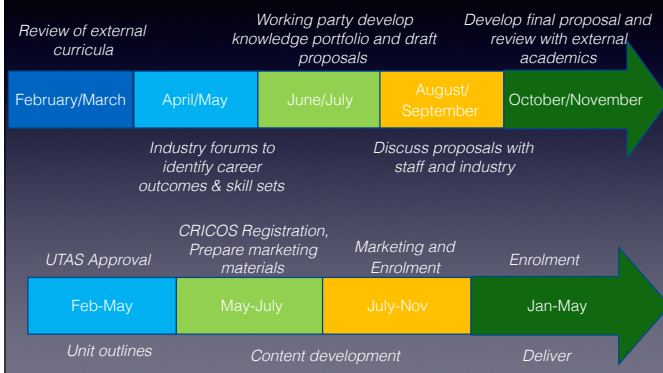
SFIA-Bloom's-AQF Mappings

SFIA Level	SFIA Autonomy	Bloom's Level	Bloom's Cognition	AQF Skills
1	Follow	1	Remembering	Remember
2	Assist	2	Understanding	Understand
3	Apply	3	Applying	Apply
4	Enable	4	Analysing	Investigate, analyse
		5	Evaluating	Critical reflection, evaluate
5	Ensure, advise	6	Creating	Create
6	Instantiate, Influence	These SFIA skills are generally achievable through experience in the ICT industry		
7	Set strategy, inspire, mobilise			

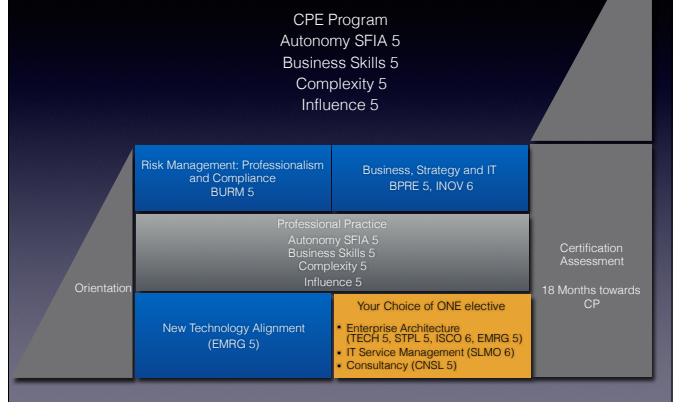
Process at RMIT



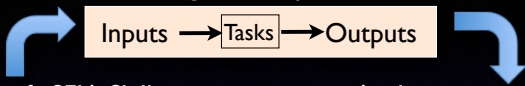
University of Tasmania Course Redesign (2012 - 2014)



ACS CPeP Program Composition



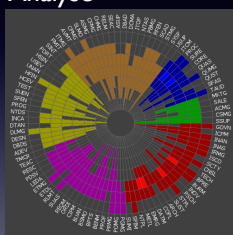
Design and implement



Identify SFIA Skills

	SFIA Skills	Levels
EMRG P 20	Emerging technology monitoring	4 5 6
METL P 21	Methods and tools	4 5 6
BPRE P 18	Business process improvement	5 6 7
STPL P 18	Enterprise and business architecture development	5 6 7
SUMI P 20	Sustainability management for IT	5 6
CORE P 42	Conformance review	3 4 5 6

Analyse



Involve stakeholders

Review and revise
Address stakeholder needs?

von Konzky, B.R., Jones, A., Miller, C. (2013). Embedding professional skills in the ICT curriculum, ascilite 2013.

Special Thanks To:

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Australian Council of Deans of ICT (ACDICT)
ACDICT Learning and Teaching Academy (ALTA)