



Incorporation of generic skills into the first year life sciences curriculum at the University of Tasmania

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University of Tasmania : graduate attributes



- Knowledge
- Communication skills
- Problem-solving skills
- Global perspective
- Social responsibility



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Students



- do students really understand what is meant by 'graduate attribute'?
- need to be convinced that generic skills are as important as discipline-specific knowledge and technical ability
- should enter a first year program that forms a foundation for future development of generic graduate attributes
- must be able to demonstrate achievement to employers



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Staff



- do academics really understand what is meant by 'graduate attribute'?
- may need to be convinced that generic skills are as important as discipline-specific knowledge and technical ability
- may need assistance or support in developing effective strategies for incorporating generic skills into teaching
- may need assistance or support in developing effective assessment of generic skills



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University-wide initiatives

- redefined graduate attributes
 - faculty considering extension (eg laboratory competency, computer usage, OH&S awareness)
- course-level mapping
 - faculty proposes Generic Embedment Matrix
 - faculty-wide major mapping project 2005
- developing graduate portfolio tool





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First Year Life Sciences

- Knowledge¹
- Communication skills^{1,2}
- Problem-solving skills¹
- Global perspective
- Social responsibility^{1,2}

¹explicitly taught & assessed

²recent active development in response to university policy direction




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First Year Life Sciences

Sem 1	Biology of Animals	Biology of Plants
Sem 2	Ecology & Biogeog.	Cell Biology & Genetics

- each "block" = 12.5%.
- most students do all four.
- sem 2 units co-taught by Zoo. & Plant Sci.
- complementary learning activities address generic skills




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Biology of Animals

Communication Skills: beginning academic writing

- ✦ students write a 300 word assignment
- ✦ bring assignment to workshop focusing on
 - analysing the question (related to 'exam essays')
 - effective paragraphing & logical flow
- ✦ engage in peer review of assignments
- ✦ hand in assignments for 'participation marks'

Workshop based around Scientific Communications Skills web-based resource **scribble** (Osborn et al. Uniserve 2003)
<http://www.utas.edu.au/scribble/>




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Ecology & Biogeog.

Problem Solving and Communication Skills: focus on information literacy

- ✦ workshop by librarian on how to find references
- ✦ 'library assignment' linked to essay topic
- ✦ introduction to referencing conventions within discipline
- ✦ write 1000 word formal essay (builds on sem.1 task)
 - correct referencing expected
 - marked on content & structure

Current project: surveying ILS of science undergraduates, and mapping explicit teaching & assessment of ILS across the faculty





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Cell Biology & Genetics

Communication Skills: focus on writing an academic essay

- ✦ workshop based on **scribble** essay writing module
 - includes in-class exercises
 - focus on introduction, developing an argument, effective conclusions
 - emphasise other sources of help
- ✦ write 1500 word formal essay
 - assessed on structure, content, referencing

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Ecology & Biogeog.

Social Responsibility

- ✦ workshop on animal ethics issues in research
 - linked with lectures on behavioural ecology
 - legal issues & responsibilities of scientists
 - justification of research
 - implications for research design and methodology
 - group discussion of issues
- ✦ assignment marked on criteria including written communication




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Cell Biology & Genetics

Social Responsibility

- ✦ discussion workshops structured around scenarios from **geneISSUES: medical miracles, ethical dilemmas***
 - videos and handouts from CD
 - students discuss issues in context of the 4 basic principles of medical ethics
 - hand in answers to questions

*CD available from Gene CRC
<http://www.genecrc.org/site/lc/lc3cb4.htm>




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Issues : 1

Effective teaching of generic attributes must be embedded within the context of the discipline and linked with assessment.

- can/should we assume that our beginning students already possess some base level of skills and knowledge?
- how can we explicitly and effectively assess generic skills?



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Issues : 2

Effective development of generic attributes is sequential and integrative, and facilitates engagement with disciplinary knowledge and practice.

- how can we be creative in designing embedded learning activities to guard against "generic fatigue"?
- are there specific attributes on which it is most appropriate to focus at first year level?



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