

Quality Systems Education within University Science

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INDUSTRY NEEDS



- Graduate capabilities to minimise training.
- Graduates with a basic understanding of quality systems to:
 - Integrate with existing systems
 - Adapt to industry-specific systems
 - Benefit from additional training
 - Effectively navigate regulation and certification
 - Provide quality system staff continuity
 - Move into, or manage, quality systems

ACADEMIC UNIVERSITY SCIENCES

Life Sciences

- Medical sciences, pharmacy, microbiology, molecular/cellular biology, chemistry, physics, public health, biochemistry, biotechnology, laboratory science, etc.

Natural Resource Sciences

- Ecology, environmental-science, -health, -chemistry, geology, hydrology, agriculture, botany, biology, etc.

Mathematical Sciences

- Statistics, modelling, theoretical, pure, etc.

Engineering.....?

CONTEMPORARY QUALITY SYSTEMS EDUCATION

Real world

- Quality training coursework (requirement)
- On-the-job training
- Effective, often industry-specific



University

- Formalised where required (food safety, pharmacy, med. Lab. Sci., etc.)
- Some science quality courses coming on-line, but the exception (Macquarie/NMI/NATA-post grad.)
- *General* quality systems education rare.

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**“IS QUALITY ASSURANCE
LIKE.....ACCOUNTING?”**

.....i.e.

BORING!!!



ALPHABET SOUP



- Blizzard of terms, acronyms and abbreviations
- Many discipline-specific
- Most learned on-the-job
- Familiarisation with key ones as part of general and discipline-specific coursework simplifies putting new ones in context.

STUDENT DIVERSITY

COURSEWORK

- Undergraduate
- B.Sc. (3 yr)
- May be > 1 discipline
- General and discipline-specific scientific theory and practice.
- ca. 20% pursue science career
- Optimal point for quality system components?

RESEARCH

- Honours (1 yr)
- Postgraduate
 - M.Sc. (1-1.5 yr)
 - Ph.D. (3 yr)
- Generally one discipline
- Lab-, or literature-based
- Quality assurance?

Effective quality systems education at university

- *Experienced* academic staff limited, but critical
- Employ experienced industry guest lecturers (AOQ)
- Raise discipline-specific quality systems awareness

COURSEWORK

- Undergraduates
 - General quality assurance
 - Discipline-specific module(s)/lectures in 3rd year.

RESEARCH

- Honours and postgrads
 - Laboratory and experimental QA
 - Quality-associated statistics
 - Short courses, workshops.

IT'S **YOU** THE HIGH QUALITY!



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