

INTEGRATED SCIENCE: AN INQUIRY BASED INTERDISCIPLINARY SCIENCE LEARNING EXPERIENCE

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ABSTRACT

We know that fertile ground exists within our tertiary institutions for Science curriculum renewal and the long-term challenges of creating a broader epistemological, policy, pedagogical and interdisciplinary curriculum base for learning science. This Science curriculum must meet the needs of our young people who have grown up in a highly technologised environment; interacting, engaging and disengaging with greater speed and choice than ever before. Integrated Science is an innovative new introductory science unit aimed at breaking the barriers and connecting the concepts between the traditional Science disciplines. The content covers hot topics in Science, which are important for our future and life on earth. Such topics are interdisciplinary, spanning physics, chemistry, biology with the central role of mathematics being emphasised and embedded throughout. To facilitate authentic and meaningful learning, this unit blends problem-based and inquiry-based pedagogies. Integrated Science is also fully on-line in Blackboard and modularised so that students have choice and flexibility in their learning. Assessment is aligned with the pedagogy such that students develop integrated skills in literacy, numeracy, scientific thinking and communicating and conceptual understanding rather than rote learning and regurgitating facts. Currently our narrow conceptualisation of learning science is believed to be fueling the "flight from Science", but is this really a "flight" from "rigour mortis" (McWilliam et al. 2008). Perhaps the main need is to validate a broader range of engaging Science learning experiences.

1. How do we integrate a broader inquiry-based pedagogy into a traditional Science curriculum?
2. How do we integrate the learning of science to integrate disciplinary silos?
3. How do we use a broader base of assessment strategies to align with our learning outcomes in a interdisciplinary framework?

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REFERENCES

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