P9: Development of a professional portfolio to demonstrate a professional science masters skill set

AUTHORS: Stan Svojanovsky (Missouri Western State University), Michael Ducey (Missouri Western State University), Benjamin Caldwell (Missouri Western State University)

In this presentation we will describe the Master of Applied Science (MAS) in Chemistry program at Missouri Western State University. Our non-thesis graduate program is a recognized professional science master's degree, affiliated through the National Professional Science Master’s Association (NPSMA). It has multiple unique features designed for students seeking a graduate degree in chemistry who understand the existing requirements for developing workplace skills highly valued by top employers. The program consists of 2 years of coursework including a professional core of academic training in chemistry, together with cross-training in business, marketing, management and communications. The program was developed in collaboration with regional chemical and life science industries to ensure that the acquired skills are cutting-edge and relevant. Chemistry coursework covers quality assurance, method development, and laboratory skills. In place of a thesis, students demonstrate their unique skill set by developing a professional portfolio. This portfolio, reviewed by a departmental committee at graduation, becomes a useful tool in communicating their skill set to a potential employer. We believe that students in our graduate MAS Chemistry program gain applied expertise in chemistry with an important feature of cross-training in business that will prepare them for the 21st century workplace.

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P10: Graduate employability: Views of recent chemistry graduates

AUTHORS: Mahbub Sarkar (Monash University), Tina Overton (Monash University), Christopher Thompson (Monash University), Gerry Rayner (Monash University)

Like many other countries, graduate employability is an important issue for higher education in Australia as there has been a significant decline over the past few years in the employment prospects of new graduates. This issue is additionally important due to the reported dissatisfaction of many employers with graduates' ability to contribute effectively to the workplace. The Graduate Employability for Monash Science (GEMS) Project aims to explore the skills needs of recent Monash University science graduates and their employers and investigate how these can best be inculcated into Monash University undergraduate science curricula. While we have an understanding of what employers want from graduates, less is known how recent graduates view the usage of knowledge, skills and capabilities in the workplace and how well these were developed at university. Focusing on responses from graduates with a chemistry major, this paper will discuss: (a) if there is a mismatch between the knowledge and skills developed by chemistry graduates in their undergraduate study and those actually required in post-graduation activities, and (b) what they view the Monash University can do to better support employment for graduates. We will also discuss how we intend to reflect on the survey results and develop targeted interventions for Monash University chemistry undergraduate students that will enhance their employability in chemistry-based sectors beyond graduation.

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P11: Understanding employment in chemical industry: Observations from the inside

AUTHOR: E. Kate Walker (The University of Texas at Dallas, A Brite Company)

The curriculum for the traditional chemistry degree awarded at universities and colleges is largely set by faculty members who have never spent time working in the careers for which they are trying to prepare their students. This presentation will present observations on the surface finishing and waste water treatment chemical industry from an academic-turned-insider's perspective, and discuss ideas on how to incorporate preparation for a career in industry into the four-year undergraduate chemistry curriculum.

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