

FLEXIBLE PROFESSIONAL DEVELOPMENT STUDY OPTION

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Introduction

Profession development is acknowledged as a significantly important professional activity, for both professional and technical needs, and may be achieved in multiple ways. Profession development through single courses (individual subjects) or entire programs (for a higher level qualification) of formal study is often difficult to achieve while in full employment. Individual flexibility for completing postgraduate professional development is desirable to address the variety of both personal and employment environments.

The University of Southern Queensland (USQ) has recently (2008 introduction) added a new coursework Master of Spatial Science Technology to its suite of options in both the distance education off-campus and full-time on-campus study modes. This program adds to the unique suite of undergraduate spatial science (surveying and spatial information) programs (Young 2007) for professional development opportunities at a variety of qualification levels. The completion of any of the individual courses for credit, without doing a full program, is still another option.

This article will firstly overview the *Master of Spatial Science Technology* and then identify the post graduate professional development opportunities and the articulated pathways for individual's considering longer term career ambitions.

Master of Spatial Science Technology overview.

Spatial science professionals must keep up-to-date with their technical knowledge and skills in an environment still experiencing relatively rapid changes in their make up and operations. New hardware and software, along with data handling and analysis techniques, must be well understood and used by spatial science professionals. Similarly, the generic knowledge and skill that underpin the practice of spatial science in the workplace must be acquired by other professionals who are relatively new to the discipline area. Building on the existing *Graduate Certificate Geomatic Studies* and *Graduate Diploma of Geomatic Studies* <http://www.usq.edu.au/handbook/current/eng/gdipeprog.html>, the *Master of Spatial Science Technology* completes the articulated suite of flexible professional development opportunities.

The new *Master of Spatial Science Technology* is tailored to provide a broad foundation of spatial science, a specialised suite of technical courses that cover advanced topics, and training in conducting a research project related to spatial science. The program is comprised of 12 units of study (table 1) completed from courses within 3 groups.

- At least three (3) courses from Group A (GIS and surveying courses);
- At least two (2) courses from Group B (related disciplines and application areas); and
- All two (2) courses in Group C (research methods and project dissertation).

The program flexibility is to allow for student from a spatial science background or related disciplines and application areas, such as sustainable development, information systems, and

technology management. At the successfully complete the *Master of Spatial Science Technology* graduates will be able to demonstrate ability to:

- critically evaluate knowledge from the literature and other information sources relevant to spatial science fields;
- analyse technological trends, current and advanced technologies in the spatial science area and related disciplines, such as sustainable development, information systems, and technology management;
- apply knowledge and skills in spatial science;
- undertake research into new and existing spatial science issues and application; and
- create new knowledge.

Spatial Science Articulation Options

The post graduate geomatic's certificate and diploma programs (figure 1) were developed for graduates from any professional background and, in the case of spatial scientists, the GIS options for surveyors and the surveying option for spatial information or cartography graduates. Similarly, the course work *Master of Spatial Science Technology* (MSPST) has respectively a surveying and a GIS option for those surveyors or spatial science graduates wishing to extend their knowledge and qualification level. All of these programs can be studied full-time or part-time in either the on-campus or off-campus mode (Young 2007 and Simmons 2007): the courses within the programs can be studied individually without enrolling in a full program. Figure 2 schematic from Young (2007) shows the new coursework masters and its integration into the existing undergraduate and postgraduate programs. The *Master of Spatial Science* and *Doctor of Philosophy* are both research only programs and are not discussed in this paper.

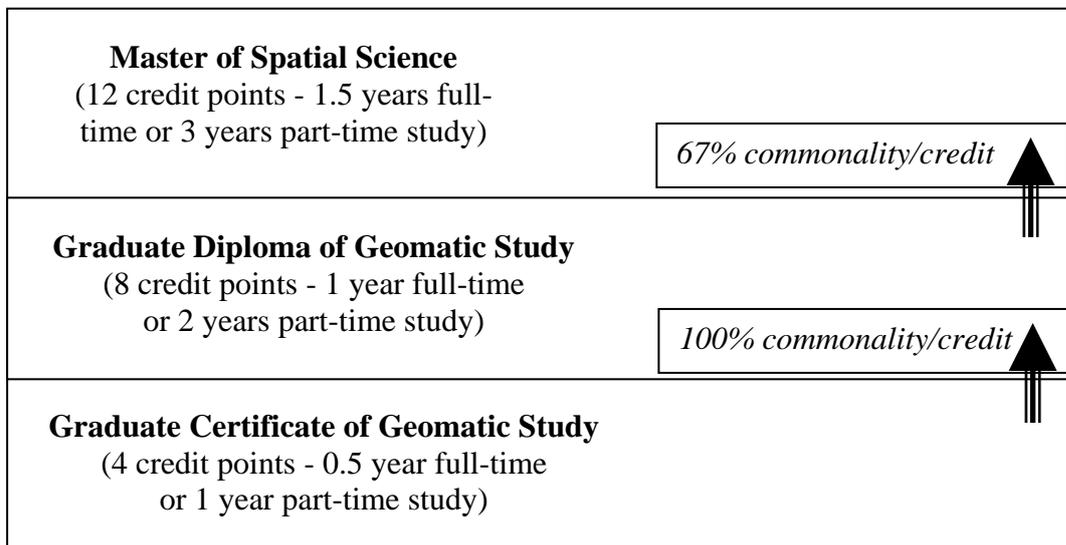


Figure 1. Post graduate coursework professional development study options.

Students are able to enrol at the level (figure 1) of their choosing and articulate to the next level or exit when they have completed the program they enrolled in. Courses completed in the lower level programs are fully credited to the higher level programs except there is the need to do a four credit point (4 courses equivalent) mini dissertation for the *Master of*

Spatial Science Technology program. Articulation can occur at a later date, within a reasonable time lapse, without loss of credit standing.

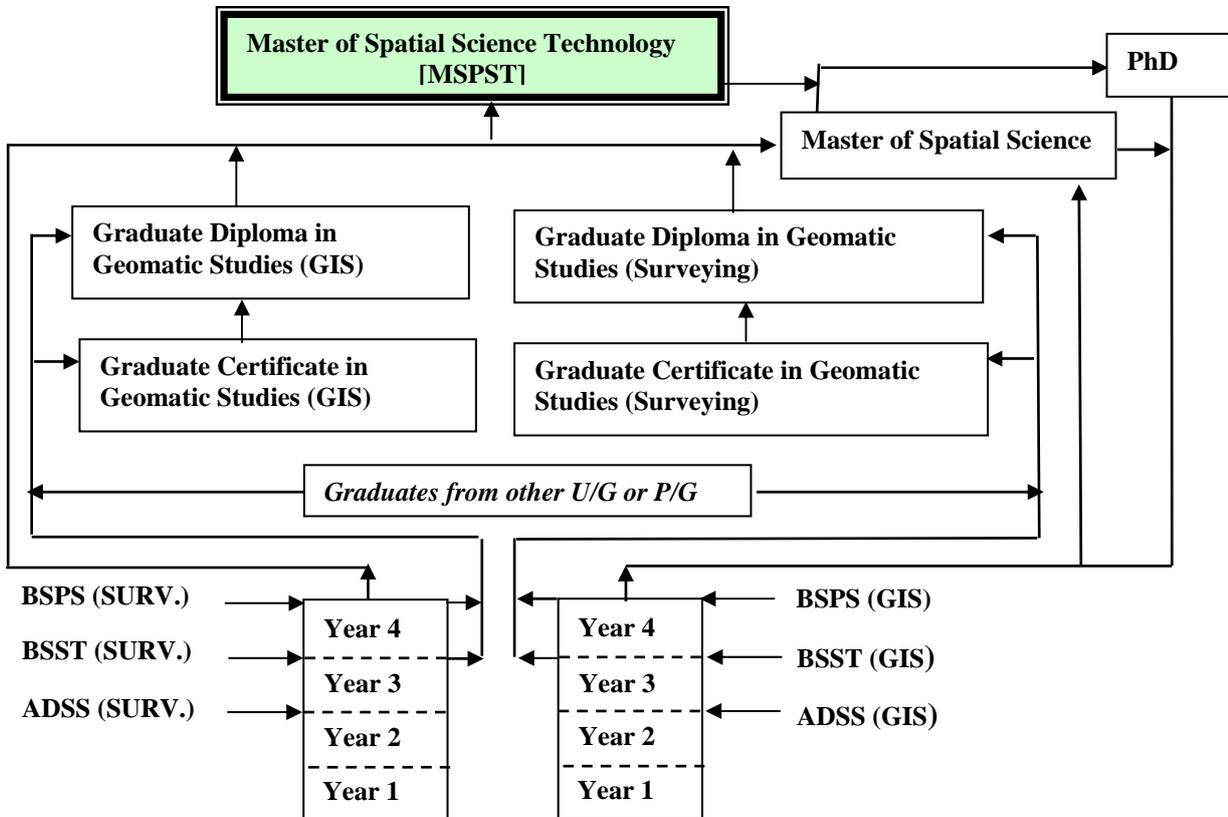


Figure 2. Spatial science program's interrelationships.

To meet the needs of different backgrounds and personal or professional practice preferences, there is a wide choice of available courses to choose from within each program structure. Table 1 outlines the choice options flexibility: alternative specific program course content may be approved by the Head of Department.

Table 1. Course choice flexibility summary

	COURSES Total	GIS MAJOR Course choices	SURVEYING MAJOR Course choices
Graduate Certificate of Geomatic Studies	4	2 of 4 plus 2 of 14	4 of 17
Graduate Diploma of Geomatic Studies	8	3 compulsory plus 1 of 2 plus 4 of 17	2 compulsory plus 6 of 18
Master of Spatial Science Technology	12	2 compulsory (including the 4 cp dissertation = 5) and a minimum of 3 of 11 and 2 of 17.	2 compulsory (including the 4 cp dissertation = 5) and a minimum of 3 of 13 and 2 of 17.

The post graduate programs have been deliberately designed so that there is no on-campus attendance requirement. Practical experience is expected to be gained within the work place

or can be completed with one or other of the variety of equipment or software available to the student. Practical training is provided to on-campus students. All study material for distance education students, which may include an introductory book; study book; book of readings; and multimedia enhancement materials (hardcopy, CD/DVD or web based) are provided by USQ. The first two chapters of each study book are accessible via the web to enable student to commence before the study material arrives through the post. Students also have full access to support via email; telephone; facsimile; post; internet web portal; Outreach facilities, library, IT.

Summary

The Master of Spatial Science Technology coursework degree adds to the professional development options available to spatial science and related disciplines professionals. As part of an integrated suite it enables professional to choose their own relevant study level and content of study through either an on-campus or a distance education study mode. The study flexibility permits the individuals to manage this development activity within their personal and professional employment environment.

References

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