Transfer Innovations Project

Earth Sciences Descriptive Pathways

Final Report

Submitted to:

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Project Background

In May 1999, the British Columbia Colleges and Universities Earth Sciences Articulation Committee (BCCU-ESAC) discussed the possibility of applying for 2 Transfer Innovations Projects from the British Columbia Council On Admissions and Transfer (BCCAT). The Committee decided that the Flexible Pre-Major Analysis Project and the Descriptive Pathways Project were closely interrelated and could be developed in parallel. The project proposal presented to BCCAT in July 1999 integrated the two options, although the final reports would be submitted separately.

The contractor for the Flexible Pre-Major Analysis Project was Dr. Michael Wilson, at that time, the Chair of the Earth Sciences Articulation Committee and an instructor at Douglas College . The contractor for the Descriptive Pathways Project was Robbie Dunlop, past Chair of the Earth Sciences Articulation Committee and a lecturer at Simon Fraser University .

Transfer Patterns In Earth Sciences

Earth Sciences Departments must provide their students with all of the courses needed to fulfill a Bachelor of Science degree as well as courses that allow them to meet the professional registration syllabus set out by the Association of Professional Engineers and Geoscientists of B.C., (APEGBC) if they choose to become professionals.

Students from colleges and university-colleges throughout B.C. travel along a variety of pathways and are able to transfer to well-established Geology/Earth Sciences major programs at the University of British Columbia (UBC), Simon Fraser University (SFU) and the University of Victoria (UVIC). The programs are unique in philosophy and composition and allow students to specialize in areas of personal interest. This diversity is a positive factor that helps enrich and promote flexibility in a science such as Geology.

The individuality of the majors programs has led to transfer difficulties for students. Our annual articulation meetings have allowed members to identify and alleviate some transfer issues. Other course transfer problems are longstanding and perpetually discussed. Since 1996 we have used a paper transfer grid listing all member institutions and courses that can be updated at each meeting. This grid serves to introduce new course offerings and may highlight transfer problems. Each institutional representative is asked to submit yearly course outlines with their institutional reports. These outlines are especially important for first and second year courses where standardization of lab exercises means that pre-major students transferring to SFU, UBC and UVIC majors programs will not be disadvantaged in higher level courses.

Rationale

The paper transfer grid used by the Earth Sciences Articulation Committee is useful to the Committee members (college and university instructors) who have access to it yearly, but is not accessible to students. The purpose of the Descriptive Pathways Project was to generate a similar grid that could be accessed by high school and post secondary students to help with career planning.

The web page entitled “So You Want To Become An Earth Scientist In BC?” outlines the courses that are needed to work towards professional registration as a geoscientist in BC.

To become a professional geoscientist in BC, one of the requirements is for a student to complete courses recommended by the Association of Professional Engineers and Geoscientists of BC (APEGBC). The Articulation Committee recognizes the importance of professional registration and for this reason the web page is built on a composite of the course requirements that are "Common to All Geoscientists", and courses in the "Specific to Geology" stream. Those students interested in the alternate streams (Environmental Geoscience, Geophysics and Geochemistry) are directed to follow a link to the APEGBC website where they can get more detailed information and specific course listings.

The grid allows a student currently enrolled at a sending institution to see how their courses will transfer into the receiving institutions (UBC, SFU, UNBC or UVIC). By selecting a course of interest they are linked directly to the BCCAT course transfer database where transfer information is displayed for that particular course.

Students can also view university and college websites by linking to the BCCAT institutional link. This will allow them to check for course changes and investigate various streams and career options.

This web page incorporates APEGBC's new Geoscience syllabi that will come into effect in September 2007. Students entering a 4-year degree program in 2003 will be required to use the new syllabi. By displaying these new requirements the Descriptive Pathways grid will help sending institutions counsel students on course selection. There will be a direct link from APEGBC's Student Resources web page to this grid to help students in career selection.

Project Objectives

The objectives of this project as approved by BCCAT in 1999 were:

- documentation of existing pathways and transfer patterns for students between pre-major and major programs in British Columbia, including potential pathways and the transfer patterns currently employed (and preferred) by students;

- specification of learning outcomes (where possible) for programs and courses offered at the various institutions;

• comparison of learning outcomes as a basis for the modification and streamlining of pathways between pre-major and major programs;

• evaluation of strategies, including prior learning assessment, for advanced placement into Geology/Earth Science courses or programs; and

• development of a formal grid to be posted to the Internet, showing students the various pathways that are possible.

Objectives 1-4 were found to be outside the scope of this project. During our first workshop it was realized that there were not only transfer issues involving first year Geology courses, but that an even more complex relationship existed between first year Geology and Geography courses. It was decided at the joint Geology/Geography Articulation meeting in May 2002 to research these issues in a new Transfer Innovations Project.

Project Deliverables

The deliverables for this project as approved by BCCAT in 1999 were:

• an analysis of transfer patterns in the discipline;

• a rationale showing how the Transfer Grid/Descriptive Pathways will improve transfer for students and benefit the institutions;

• a one-page grid detailing courses and institutions;

• evidence of formal acceptance by institutions that the information is correct;

• provision of information in format for BC Transfer Guide;

• provision of print and e-media versions of report.

Process

An initial meeting was held on January 28, 2000 in Vancouver to develop a strategy for carrying out the project. Those in attendance included Robbie Dunlop (SFU), Michael Wilson (Douglas College), Mark Smith (Langara College), Dileep Athaide (Capilano College), Sandra Taylor (Camosun College and University of British Columbia) and Finola Findlay (BCCAT). At this meeting we discussed the Transfer Grid and how we could incorporate APEGBC pathways and course equivalents into the grid. It was suggested that the grid be made three dimensional, thereby allowing students to click on an item to link to institutional websites, course outlines or other pertinent information. We also discussed the importance of learning outcomes and how they could be incorporated into the grid. Sandra Taylor (Camosun College) volunteered to work on

getting learning outcomes for the first year Physical Geology courses at various institutions.

The Annual Meeting of the Articulation Committee Chairs and Liaison Administrators was held on February 11, 2000. At this meeting our project was introduced during the Articulation Committee Projects Show and Tell. The project was described in terms of the options chosen, a project timeline and goals and the progress made up to that point.

At the Earth Sciences Articulation Meeting on May 28, 2000 in Calgary , Alberta , the progress of our Transfer Innovations Projects was discussed. It was decided that a computer format course equivalency grid should be developed to mirror the one used by the Articulation Committee at our annual meetings. This would be the first step in the generation of a three-dimensional web page transfer grid.

A two-day Transfer Innovations Project workshop was held in Parksville , BC on November 17-19, 2000. Those in attendance were Robbie Dunlop (SFU), Michael Wilson (Douglas College), Maggie McColl (Malaspina University-College), Mark Smith (Langara College) and Sandra Taylor (Camosun College and University of British Columbia). Discussion centered on course contents and learning outcomes for the first year Earth Science courses. Also discussed were Learning Outcomes for different program streams. The workings of the Transfer Grid were demonstrated and suggestions made by this subcommittee concerning the Transfer Grid were later incorporated into the web page.

Several meetings were held with BCCAT during 2001 and 2002 where problems encountered in web page construction were discussed and the workings of the transfer grid were streamlined.

At the February, 2002 Annual Meeting of Articulation Chairs/Co-Chairs and System Liaison Persons, Robbie Dunlop presented a status report on the Earth Sciences Descriptive Pathways Project.

In May 2002 a joint meeting was held between the Earth Sciences and Geography Articulation Committees in Prince Rupert , BC . The meeting and associated fieldtrips were a tremendous success. It was at this meeting that the "final version" of the transfer grid web page was presented to the Earth Sciences Committee. There was general agreement that the page looked user-friendly.

In October 2002, the web page was posted on the BCCAT website with access limited to Earth Sciences Articulation members and APEGBC members for final consensus and approval.

Conclusions

ESAC unanimously endorsed the transfer grid in its web format in November 2002. The Articulation Committee feels that the web page is clear, easy to use and benefits students planning institutional transfers. We believe that it fulfills its designed purpose of providing Internet-savvy students with up-to-date course information in Earth Sciences disciplines.

Recommendations

Now that the Earth Sciences Transfer Grid is operational, it needs to be promoted in the secondary school and college systems. A letter detailing the existence and purpose of the grid could be sent to the Registrars of post secondary institutions offering earth science and geography courses.

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