

# special report

*issue-specific reviews for BC post-secondary partners*

## Trades to Academic Transfer

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### Introduction

In recent years, there has been increased interest within British Columbia in the issue of whether or how trades qualifications might transfer into academic post-secondary programs. Some BC institutions have already started, or will be starting, programs which incorporate this form of transfer credit. A number of factors are driving the interest in this form of transfer:

- The existence of programs in other jurisdictions within and outside Canada which incorporate transitions from trades education into academic post-secondary education;
- Employers expressing a need for employees with both trades qualifications and administrative/managerial skills to effectively plan, supervise and manage trades-related projects;
- Student and employer interest in applied degree programs incorporating specific workplace skills
- The potential for qualified tradespeople to minimize time and cost when pursuing career changes or additional academic credentials, if their trades credentials could be transferred into academic programs;
- Potential new student markets for post-secondary institutions for existing academic programs, and for new academic programming, if qualified tradespeople could enrol in these programs and receive credit for their qualifications; and
- Post-secondary institutions responding to individuals' desire to pursue life-long learning and responding to individuals' changing needs and goals throughout their working lives, particularly in the context of rapidly shifting knowledge-based economies.

John FitzGibbon, BCCAT Associate Director (Transfer and Articulation), attended the May 2011 meeting of the BC Association of Trades and Technical Administrators. Those present at the meeting requested that BCCAT explore the issue of trades qualifications transferring or laddering into academic programs. To follow up on this request, BCCAT has prepared this report.

We collected information from a review of published research literature; from informal interviews with institutional and industry representatives; and from participants in an interactive workshop on "Academic Credit for Non-Academic Programs" which took place at the 2011 BCCAT Joint Annual Meeting of articulation committee chairs, system liaison persons, and institutional representatives.

Our preliminary research indicated a wide variety of potential variations on what we named trades-to-academic (TTA) transfer, including differing definitions of what constitutes a "trade" or a "trade qualification"; the many types of trades and vocational education programs and credentials; and the potentially broad range of post-secondary academic programs into which trades or vocational program credits could transfer. There are also existing vocational-to-academic laddering agreements in programs in many disciplines: for example, in health care and applied business technolog. However, to establish a manageable scope for our discussion in this report, we have defined our parameters as investigating the potential for Red Seal-qualified tradespersons to transfer credit from their trades education directly into undergraduate post-secondary degree programs. We recognize that this frame for our discussion may exclude issues specific to post-secondary academic and/or vocational programs leading to other credentials, or issues related to trades or occupations that are not part of the Red Seal program.

*BCCAT's purpose in engaging in this discussion is not to offer recommendations for or against trades to academic (TTA) transfer, but to present information that is intended to be useful to any institution or organization interested in TTA transfer arrangements.*

However, we believe that many of the general issues we address herein will be relevant to constituencies outside the particular scenario that this report focuses on.

Our preliminary research also identified a considerable amount of discussion involving the contested meanings of “vocational” and “academic” education, and the contrasting histories, philosophies and practices of trades/vocational education and academic education. While the content of such discussions clearly relates to the themes of our investigation, our primary focus is on the practical and operational dimensions of TTA transfer. BCCAT’s purpose in engaging in this discussion is not to offer recommendations for or against TTA transfer, but to present information on TTA transfer that is intended to be useful to any institution or organization interested in TTA transfer arrangements.

The report commences with an overview and assessment of some of the existing TTA transfer programs outside and within Canada. We then review some of the themes emerging from the comparisons of these programs, and conclude by identifying theoretical and practical issues for institutions to consider in developing or sustaining TTA transfer programs.

## International Examples of TTA Transfer Programs

### Australia

Australian post-secondary education has historically been divided into two sectors: vocational education and higher [academic] learning. However, across time and in response to changing work demands, these two sectors have developed relationships through such formats as cross-sector articulations, guaranteed vocational-to-higher transfer pathways, and collaborative curricula (McLaughlin & Mills, 2010a).

Two examples of TTA transfer programs exist in construction management and in vocational education and training. RMIT

University, Australia’s largest post-secondary institution, allows students in the Construction Management degree program to take skills courses, offered jointly by the School of Property, Construction and Project Management and the School of Plumbing and Fire Services, as electives in their program. Student surveys indicate that the practical work in the skills courses enhances students’ understanding of theoretical content in academic courses, and increases their own skill bases (McLaughlin & Mills, 2010b).

In several Australian teacher education degree programs, students taking qualifications in vocational and educational training can also complete an “embedded” vocational certificate in assessment and workplace training. The credits toward the certificate are gained from courses already included in the teacher training program. However, student surveys indicate that many students are not aware of the additional certification opportunity, and, for those who knew about it, its availability did not influence their decision to enrol at a particular institution. Nevertheless, most students expressed satisfaction with the more practical focus of the courses included in the certificate curriculum, and with the increased skills they acquired through taking these courses. Administrators expressed mixed feelings about the program, most relating to inconsistent regulatory and administrative requirements dependent on the “vocational” or “higher learning” classification of the host institution (Smith & Bush, 2006).

### Germany

Germany was the first country in Europe to create Fachhochschulen, or Universities of Applied Sciences (UAS), which specialize in teaching subjects with an applied or practical orientation (e.g. engineering, computer science, business). The Diplom (FH), a four-year degree awarded at UAS, includes several semesters of full-time study along with one or two semesters of practical hands-on training. As a result of the Bologna accord, which established pan-European guidelines for post-secondary education, the bachelor’s degrees awarded at UAS are considered legally equivalent to bachelor’s degrees awarded at other recognized post-secondary institutions

(Report on the Compatibility, 2008). UAS also offer more traditionally structured bachelor's degree programs lasting three or four years, and master's degree programs lasting one or two years. While UAS do not offer doctoral programs, students graduating with a Diplom (FH) may transfer into a doctoral program at a university, at a specialized institution offering doctoral degrees, or at a university of art and music.

This integrated system of vocational and academic training is seen as a competitive advantage for Germany because it produces adequate numbers of skilled workers, despite a relatively low university graduation rate (Hartmann, Knust, Loroff & Stamm-Riemer, 2009). Approximately 15% of graduates with higher-level vocational certificates would like to obtain further education, but there are significant structural barriers to admitting vocational graduates to higher education, including a lack of additional resources to support such integration and established program admission standards which draw strict boundaries between different types of educational achievements (Hartmann et al). However, vocational graduates' entry into academic programs has been facilitated at some institutions which use generalized and individual equivalence assessments to determine the credit value of vocational qualifications and competencies gained through work.

## England

In 2001, the "foundation degree" was incorporated into England's higher education system. This degree is intended to provide a higher education option for students not meeting the entry qualification for more traditional undergraduate degree programs, and/or unable to commit to a full-time, campus-based degree program (Longhurst, 2010). A foundation degree is a three-year undergraduate degree, and the completion of an advanced apprenticeship program is one of several potential entry paths to foundation degree programs. The foundation degree curriculum includes work-based learning (often undertaken in partnerships with employers), and the program is offered in flexible formats to fit students' schedules, including part-time enrolment and online tutorials.

Currently, close to 100,000 students are enrolled in foundation degree programs. Approximately 40% of entrants to the foundation degree are admitted under the entry category that includes the advanced apprenticeship qualification (Higher Education Funding Council, 2010), although the available statistics do not distinguish between the number of entrants with the apprenticeship qualification and the number of entrants with other qualifications included in the same category. The completion rate for the foundation degree is approximately 50% for both full-time students and part-time students; students also have the option to complete another year of study for an honours degree, which is undertaken by approximately 50% of graduates. (In comparison, the overall completion rate for all undergraduate degrees in

the UK averages approximately 75% for full-time students and 47% for part-time students [National Audit Office, 2007].) The most popular fields of study for full-time foundation degree students are creative arts and design, business and administrative studies, education, and social studies, while education and business are the most popular fields of study for part-time students.

## United States

In the United States, a small number of programs provide formal pathways from trades qualifications to academic education, or provide support for trades graduates undertaking academic post-secondary courses. Most of these programs focus on facilitating transitions between trades certification programs and two-year associate degree programs. For example, Washington, Florida, and Arkansas all offer reduced or waived tuition fees and/or tax credits to students with completed apprenticeships who enrol in community college programs. South Carolina has instituted a program providing a tax credit to apprentices along with increased funding to technical colleges, which has resulted in 71% of new students in apprenticeships including other college courses in their program of study (Gonzalez, 2011).

Some TTA transfer programs in the United States have been developed by post-secondary institutions in partnership with trade unions seeking expanded career and education opportunities for their members. In West Virginia, the Finishing Trades Institute, which is operated by the International Union of Painters and Allied Trades, has collaborated with Marshall Community and Technical College to have apprenticeship credentials accepted for credit in two-year associate degree programs (Powers, 2006). At Empire State College in New York, apprentices affiliated with the International Brotherhood of Electrical Workers or with the Council of Carpenters Labor Technical College can receive academic credit for some or all of their apprenticeship education toward an associate of science or bachelor's degree in labor studies (Balthaser, 2010).

## Canadian Examples of TTA Transfer Programs

There are several programs at Canadian post-secondary institutions that allow students who have completed trades programs to ladder into degree programs. For example, the landscape design program at Kwantlen Polytechnic University in BC allows graduates to ladder into the Kwantlen Bachelor of Business Administration degree in Entrepreneurial Leadership or Human Resource Management, or into the Kwantlen Bachelor of Applied Sciences degree in Horticulture. There are also a number of diploma or certificate programs that give credit for trades credentials; graduates of these programs can then ladder into a degree program, as in the landscape gardener appren-

tice program at Olds College in Alberta, whose graduates can eventually ladder into a Bachelor of Applied Science degree in Horticulture. The Bachelor of Interdisciplinary Studies program at Thompson Rivers University also grants transfer credit for specific courses within trades programs. However, there are

only a few programs we identified, all in BC, where graduates of Red Seal programs can have their Red Seal trades qualification accepted for credit directly into undergraduate degree-granting programs. These are described in the tables below.

**Table 1: University of the Fraser Valley**

Program	Trades Credential Required for Admission	Other Admission Requirements	Credit Granted for Trades Credential	Requirements for Degree Completion	Program Start Date
Bachelor of Business Administration (Trades Management)	Provincial certificate of qualification or inter-provincial certification of qualification in a trade + 1 year full-time work experience in the field after gaining qualification	Pre-requisites for ENGL 105 (Academic Writing) and BUS 149 (Essentials of Finance)	First three semesters of BBA program (approximately 45 credits)	Requirements of BBA program, with CGPA of 2.67 over 3rd and 4th years. BBA Trades students are usually expected to meet pre-requisites for upper level BBA courses (which may entail taking extra lower level courses).	2007

**Table 2: Kwantlen Polytechnic University**

Program	Trades Credential Required for Admission	Other Admission Requirements	Credit Granted for Trades Credential	Requirements for Degree Completion	Program Start Date
Bachelor of Technology in Innovation and Leadership	Trade ticket in trade as defined by ITA, and/ or Red Seal certification from program that includes 20+ weeks of classroom instruction; <u>or</u> trade ticket or Red Seal from program with 19 weeks or less of classroom instruction + 30 post-secondary or undergraduate credits in Trades/Technology, <u>or</u> 60 post-secondary credits in approved Trades/Technology courses.	Principles of Math 11C <u>or</u> Foundations of Math 11C <u>or</u> Pre-Calculus 11C; Physics 11C; English 12C (or equivalent or higher of each)	60 undergraduate credits	21 credits TECH courses; one 3-credit course in each of ENGL, ENVI, BUQU, and ENTR; two 3-credit SOCI courses; three 3-credit LBED courses; two 3000-level electives; 6-credit TECH capstone project	Will start in 2012

**Table 3: Thompson Rivers University - Open Learning**

Program	Trades Credential Required for Admission	Other Admission Requirements	Credit Granted for Trades Credential	Requirements for Degree Completion	Program Start Date
Bachelor of Technology (Trades and Technology Leadership)	Provincial Grade 12 Diploma or approved equivalent + Red Seal Trades Qualification or recognized diploma of technology + at least 4 years' experience in the field after graduation		Between 10 and 36 undergraduate credits for trades qualification, based on number of hours of full-time classroom training in program. 60 undergraduate credits for 2-year technology diploma. Credits granted on admission may also include transfer credit and/or prior learning assessment and recognition (PLAR) credit.	15 general education credits; 18 core leadership credits; 2 credits from leadership/management electives; 15 credits from general upper level courses. All courses are online, and program can be taken part-time.	2006

**Table 4: British Columbia Institute of Technology**

Program	Trades Credential Required for Admission	Other Admission Requirements	Credit Granted for Trades Credential	Requirements for Degree Completion	Program Start Date
Bachelor of Technology in Construction Management	A recognized Diploma of Technology or degree in architecture or a related engineering discipline, <u>or</u> at least 60 university credits (30 100-level and 30 200-level) + 4 years' experience in construction using specific skills, <u>or</u> at least 60 university credits (30 100-level and 30 200-level) + 30 credits of bridging courses, <u>or</u> Certificate of Qualification with an Inter-Provincial Red Seal Endorsement in a related trade, with at least 20 weeks of technical training over a four-year period, with at least 30 hours of training per week + 30 credits of bridging courses	C+ in English 12; applicants with trade credentials also need high school graduation and C in Math 11  Meet BCIT standards for English language proficiency  At least six months relevant work experience prior to admission and at least two years (including the six months) experience prior to graduation  Interview with program head  Proficiency in Windows-based word processing, spreadsheets, and file management	Approximately 60 credits	15 credits in construction controls and techniques; 12 credits in construction management; 8.5 credits in stakeholder management; 3 elective credits; 12 credits in liberal studies; 10.5 credit industry project	2000

# Common Themes in the Examples

## How Transfer Credit is Structured

Generally, the transferability of trades qualifications is limited to specified academic programs or credentials, and the transferability of the trades credential is in the form of block transfer credit. In other words, a student with a completed trades qualification usually does not have a wide choice of academic programs to enter, and usually does not have the ability to transfer individual courses taken as part of their qualification program. Although our research focused on TTA transfers of Red Seal credentials into undergraduate degree programs, we found that trades credentials of many kinds transfer into certificate, diploma, and degree programs, with varying amounts of credit granted for trades credentials. For undergraduate programs requiring completion of a Red Seal qualification, some programs simply require the completed qualification for program admission and/or transfer credit and do not distinguish between different trades qualifications, other than requiring they be part of the Red Seal program. However, some programs give differing amounts of credit for different Red Seal qualifications. For example, Thompson Rivers University-Open Learning's Bachelor of Technology in Trades and Technology Leadership program grants from 11 to 35 credits for a Red Seal qualification, with the amount of credit assigned to each qualification based on the number of classroom instruction hours in the qualification program.

## Which Types of Degrees Accept TTA Transfers

Degree programs which give credit for trades qualifications can be classified into two types. Some are non-trades degrees with variations in admission or completion requirements to accommodate students with trades qualifications. Others are degrees with a trades focus, designed explicitly for students with completed trades qualifications and/or trades work experience, and intended to develop skills for trades-related employment. The latter model is much more common than the former. The requirement for the completion of a Red Seal qualification appears to have become more common as the variety and types of trade and vocational training programs has increased. Some programs, such as BCIT's, further restrict the Red Seal certifications acceptable for program admission to those certifications whose programs include a minimum amount of classroom-based training. Our interviews indicated that programs implementing such restrictions did so to increase students' chances of success in the program, by ensuring that students were familiar with the format and requirements of classroom-based coursework.

## When TTA Credit is Granted

The timing of when trades credits could be transferred to academic programs also varies. In some programs (for example, the Australian teacher training program incorporating a vocational assessment credential), an academic credential could be taken at the same time as a trades credential. In other programs, the academic credential was clearly designed to follow or supplement the trades qualification, with some programs also requiring a specified amount of work experience as an admission criterion in addition to the trades credential.

## Number of Students Using TTA Transfer Arrangements

We found no reliable indication of the numbers of students using TTA transfer into undergraduate degree programs, other than the summary statistics on foundation degree admissions in England. Anecdotal evidence collected during our research suggests that small numbers of students are admitted to and graduate from Canadian TTA transfer programs leading to undergraduate degrees. The reasons for this are not definitive, but may include:

- trades students or trades graduates not being interested in academic programs;
- potential students being discouraged by the requirements for degree admission and/or completion, and thus not applying, or not enrolling in or completing the program once admitted; and
- students who have completed trades qualifications being satisfied with their level of education, their salaries, and/or their career choice, and seeing no reason to undertake further study .

## Potential Challenges to Successful TTA Transfer

A challenge to the success of TTA transfer programs, which was identified both in the literature and also in our discussions, is the difficulty of establishing transferability when trades and academic programs are structured quite differently. Generally, trades and academic programs use different course delivery models and schedules, and use different forms of learning assessment. Additionally, while trades and academic courses may cover the same content, the content may be distributed across courses differently in each type of program. For example, a mathematics topic that is the subject of a single academic course may be delivered in trades programs in smaller units incorporated into several different courses. At a more functional level, trades and academic programs are usually supported through different funding models, each with their own expectations for program



structure, delivery and outcomes. These realities were mentioned as challenges to creating seamless transfers in either direction between trades programs and academic programs.

A further structural challenge that was also identified was incompatibility between entrance standards for trades programs and entrance standards for college or university programs, with the result that students' ability to move between the two types of programs is often restricted. This was mentioned as a particular issue in relation to high school English and math pre-requisites, which tend to be set at different levels for academic programs than for trades programs. Anecdotal evidence indicated that students with math and English credentials acceptable for admission to trades programs, but not to academic programs, could successfully upgrade those credentials for admission to academic programs, but needed additional support to be able to achieve this.

Finally, both the published research and our interviewees spoke to the less easily defined but no less significant challenge of some academics' attitudes toward the quality or rigour of education in trades training – in other words, a belief that trades qualifications should not receive any transfer credit into any academic program because trades education is fundamentally different from academic education. Anecdotally, this belief manifested itself in such forms as individual students' transfer credit requests being rejected by academic programs because of the courses being trades courses, and both trades and academic programs being discouraged from exploring possible collaborations because of the alleged incompatibility between the two types of education. Although these attitudes likely are not pervasive in every academic program or institution, the alleged academic bias against trades education was raised as a concern often enough that our discussion would not be comprehensive without mentioning it.

## Issues for Consideration

Building on the results of our investigation, we propose the following issues for consideration by institutions interested in developing TTA transfer programs or improving existing TTA transfer programs.

- Assessing the characteristics of potential students, particularly their needs and wants. Our research indicates several different groups of potential TTA students:
  - o Students with trades qualifications wanting to undertake further study for personal or professional development;
  - o Students with trades qualifications requiring additional credentials for career mobility or progression;

- o Students with trades qualifications who are no longer able to practice their trade due to physical limitations (e.g. age or injury), and thus need different qualifications or credentials to have access to other employment opportunities;
- o Students with trades qualifications who wish to pursue a different career path and need a different credential to do so;
- o Students currently pursuing trades qualifications who would like to acquire additional credentials while completing their trades programs; and
- o Students with academic qualifications who would like to acquire a trades credential to increase their employability, or for personal or professional reasons.

Each of these groups of students will have different needs which may need to be addressed in different ways, either through variations in the structure of an individual program, or through structuring separate programs to serve the needs of particular student groups.

- Determining what type of credential is most appropriate or useful for prospective students. While our research focused on trades transfers into undergraduate degree programs, it is apparent from the variety of academic credential programs incorporating trades qualifications that a four-year degree may not be necessary or may not even be desired by potential students. The needs of some student groups may be better served by diploma, certificate, and/or associate (two-year) degree programs. Building laddering options into a program culminating in a degree may be an efficient method of offering a variety of credentials to address students' academic needs and wants.
- Recognizing the effect of trades students' attitudes toward academic studies, and ensuring sufficient support for students making the transition from trades programs to academic programs. Several interviewees suggested that students who enter trades programs often do so because they are not qualified to undertake academic studies, or because they do not enjoy taking academic courses. Thus, potential TTA transfer students may require intensive and direct support in preparing for and transitioning to academic studies. None of our interviewees or workshop participants expressed any doubt about trades-qualified students' potential to succeed in academic courses; however, because of attitudinal resistance and/or lack of previous qualifications, this particular group of students may need additional support

*Building laddering options into a program culminating in a degree may be an efficient method of offering a variety of credentials to address students' academic needs and wants.*

in such forms as access to academic upgrading opportunities, assistance with program and career planning, and assistance with formal acquisition of effective study skills. A set of bridging courses - as part of, or prior to, formal admission to academic programs - was frequently mentioned as an effective method of improving trades students' academic qualifications, while also ensuring that their study and learning skills were at a level that would help them succeed in academic courses.

- Understanding and accommodating the needs of working students in relation to the opportunity cost of undertaking an academic program. Tradespeople working full-time may be earning significant salaries. It may not be financially viable for these individuals to give up well-paid employment, and possibly to also incur student loan debt, in order to attend a traditionally structured academic program, even if acquiring an academic credential would improve their future career prospects. TTA transfer programs should consider ways to minimize the opportunity costs for working students wanting to acquire an academic credential. Part-time studies, evening and/or weekend classes, online classes, course sections or seats reserved for TTA transfer program students, and compressed semesters or programs (based on a standard amount of instructional hours but offered on an accelerated schedule) were all mentioned as ways to accommodate the schedules of working students, and as ways to assist students in completing their programs in an amount of time that minimizes their salary losses.
- Determining how transfer credit for trades qualifications will be allocated. As mentioned, differences in content and structure between trades and academic programs may create some significant challenges in establishing direct transfers between the two types of programs. A block transfer arrangement avoids some of the problems of comparing and evaluating differently-structured courses, even those containing common content. However, block transfer may limit students' program choices, since the block transfer credit may apply to only one or a few program options. A block transfer may also create problems for students attempting to enter upper-level courses, if the transfer agreement does not give them transcribed credit for the necessary lower-level prerequisite courses. Course-by-course transfer may give students more academic program options, and also may give students more accurate credit equivalencies for their previous educational accomplishments. Prior learning assessment and recognition (PLAR), course challenge, and equivalency or assessment examinations were all mentioned as possible methods of awarding academic course credit if students' previous trades coursework or professional experience is not exactly parallel to the structure or content of courses in academic programs.
- Creating opportunities for academic transfers into trades programs, as well as trades transfers into academic programs. A number of studies have predicted increasing shortages of trades-trained workers in Canada (Careers in Trades, 2011); this situation could create an interest in trades training among unemployed or underemployed students with academic qualifications. Pre-defined pathways into trades training for academically qualified students, particularly if these pathways granted students credit for their previous academic work, would open up a new student market for trades programs. For example, a student who has completed a degree in visual arts but is unable to find full-time employment in that field might be able to enter a trades program in an area such as painting and decorating, and receive credit for previous academic studies involving such topics as colour theory.
- Effectively marketing the TTA program, internally and externally. Because of the traditional division between trades programs and academic programs, students in each type of program may not be aware of opportunities available to them in the other. Institutions with TTA transfer programs would benefit by ensuring that students are aware of the potential to undertake further education after completing their credential. Additionally, both the research literature and the participants in our discussions spoke of the marketing value that TTA transfer programs bring to the institution. These programs demonstrate innovative educational thinking; responsiveness to student, employer, industry and community demand; and a commitment to lifelong learning. Institutions could also work with external stakeholders such as unions, industry associations, and trade/occupational associations to create awareness of program opportunities, or as partners in program development, curriculum design, or program delivery.



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