ALGONQUIN COLLEGE | OTTAWA PERTH PEMBROKE

PRESENTATION TO BOARD OF GOVERNORS

Program Title:	Construction Techniques
Credential:	Ontario College Certificate
Program Length:	One Year
School:	Algonquin College in the Ottawa Valley
Dean:	Karen Davies
Proposed Start Date:	Fall 2013

PURPOSE

This program prepares students to work within the building construction industry and address the anticipated shortages of skilled workers as a result of an aging workforce and local construction expansion. Students explore the foundational trades' areas within the building construction sector and gain practical hands-on skills which provide opportunities to pursue employment, apprenticeship and/or further academic training.

Students acquire knowledge and skills in hand and power tool usage, carpentry/framing techniques, blueprint reading, welding, hoisting and rigging, plumbing, applied construction geometry, mathematics and the Ontario Building Code. In the second semester, students experience an authentic hands-on learning opportunity when constructing a community based building project.

Graduates may find employment on residential, industrial and commercial construction sites.

BACKGROUND

Recommendations from the Strategic Programs and Services Planning Committee for new program opportunities in Pembroke included Pre-apprenticeship Carpentry and Building Construction programs, the former having started in October 2012, and the latter now under consideration. It has been recognized that these kinds of programs, coupled with the campus's successful General Carpenter Apprenticeship program, would provide a strategic cluster of programs for Pembroke to meet the local needs of the growing building construction industry.

The program will be delivered over two academic semesters and leverages existing tools, equipment and faculty expertise within the existing General Carpenter Apprenticeship program, which has been delivered in Pembroke for the past seven years.

CONSIDERATIONS

(i) **Evidence of Need**

There is a strong need for graduates of this program within local industry. A labour market analysis was completed by Hanover Research in July 2012. The findings indicate ample evidence to suggest sustained growth in the building construction sector in some key geographical areas within Renfrew County including Pembroke, Petawawa and Deep River communities. Of significance, it was reported the return of Canadian Forces from overseas, combined with the transfer of a critical helicopter fleet to Base Petawawa, is expected to

increase the total population of the Town of Petawawa, leading to growth of private and public construction as families relocate to the area. Construction projects for Base Petawawa, alone, are expected to total nearly $1 billion through 2020.

Furthermore, and not unlike the Muskoka region to Toronto residents, Renfrew County is becoming known as a wonderful cottage and retirement area for urban dwellers located in the City of Ottawa region which is fueling a building development and renovation business boom.

Finally, as proof of increased demand for our graduates, the Pembroke Campus recently delivered a Pre-Apprenticeship Carpentry program which included an 8-week paid work placement. All 20 students gained a placement, with many opportunities not being filled.

(ii) **Student Interest**

Comparable programs across the province show consistent applications and at-capacity enrolments. The number of secondary school students (grades 11 and 12) participating in co-op placements or registered as apprentices in construction-related fields is on the rise in Renfrew County. Interest in the recent Pre-Apprenticeship Carpentry program far exceeded the number of seats available.

(iii) **Staffing**

Staffing costs will be attributed to part-time and partial load faculty with consideration given to a full-time hire once the program is stable.

(iv) **Admissions Requirements**

Program Eligibility:

- English, Grade 12 (ENG4C or equivalent).
- Mathematics, (Grade 12 MAP4C) or equivalent.
- Mathematics, (Grade 12 MCT4C) is recommended.

(v) **Advisory Committee Support**

The Program Advisory Committee, comprised of local builders, industry related employers and secondary technical teachers, fully supports the need for this program. It provided its formal motion of support and recommendation for College approval on August 28, 2012.

(vi) **Strategic Alignment**

The implementation of this program reflects the strategic directions of the College, including the commitment to digital learning, with 20% online for non-shop courses, laddering opportunities, leveraging of relationships with industry with 100 hours of hands-on community projects and industry certifications, and meeting the needs of students and the community. This program was identified as a new opportunity in the Strategic Programs and Services Planning Final Report.

Appendix 1: Program of Study
Appendix 2: Cash Flow Analysis

RECOMMENDATION

That the Board of Governors approve the Construction Techniques Ontario College Certificate program effective Fall 2013 and seek validation of the program title and outcomes from the Credentials Validation Service and approval for funding from the Ministry of Training, Colleges and

Universities.

Appendix 1: Program of Study

LEVEL 1 – 15 Weeks

COURSE NUMBER	COURSE TITLE	Hours					
		Theory		Lab		Field / Clinical	Total Hours
		In class	Online	In class	Online		
CON7014	Building Tools and Materials	50	10	75			135
CON8115	Construction Safety	15	5	10			30
MAT7013	Applied Construction Geometry	21		9			30
DAT7222	Computer Applications for the Trades	32					32
DRA7331	Plans, Specifications and Codes I	32					32
ENL1813T	Communications I	15	30				45
MAT7014	Applied Mathematics for the Trades I	30					30
	TOTAL LEVEL HOURS	**195**	**45**	**94**			**334**

LEVEL 2 – 15 Weeks

COURSE NUMBER	COURSE TITLE	Hours					
		Theory		Lab		Field / Clinical	Total Hours
		In class	Online	In class	Online		
CON7015	Residential Framing and Exterior	65		85			150
MAT7015	Applied Mathematics for the Trades II	24					24
DRA7332	Plans, Specifications and Codes II	32					32
CON7016	Fundamentals of Building Science	22	8				30
PLU7011	Introduction to Plumbing	15		15			30
CON7017	Collaborating with Supporting Trades	24					24
WEL7310	Metal Cutting and Welding	8		16			24
GEDxxxx	General Education Elective		45				45
	TOTAL LEVEL HOURS	**190**	**53**	**116**			**359**

Hybrid 20.29%

Certificate Program Total Hours: **693**