CARPENTRY TECHNIQUES

Program Outline

Major: CART
Length: 1 Year
Delivery: 2 Semesters
Credential: Ontario College Certificate
Effective: 2016-2017
Location: Barrie, Owen Sound
Start: Fall (Barrie, Owen Sound)

Description
This program provides graduates with occupational skills for employment in the construction industry. It focuses on residential and light commercial construction, which will include surveying and lot layout, concrete form work, framing, interior and exterior finish and sustainable construction techniques. Students study theory and applications of safety, building codes, blueprint reading and energy efficiency. Students will learn to interpret the Ontario Building Code as it applies to renovations and new construction. Basics of entrepreneurship will be presented.

Career Opportunities
Our graduates enjoy success as employees in residential, commercial and industrial construction, as well as the renovation field. Potential opportunities may include General Carpenter, Trim Carpenter or Form Work Carpenter. A graduate may wish to discuss the possibility of eligibility for apprenticeship credits into the General Carpentry apprenticeship program with the Ministry of Training Colleges and Universities.

Program Learning Outcomes
The graduate has reliably demonstrated the ability to:

- apply safety procedures in the shop and on the job site, in accordance with the Occupational Health and Safety Act Construction Regulations;

- solve trade-related mathematical problems involving the principles of ratio and proportion and plane geometry;
- carry out the necessary alterations and/or additions in a manner that complements and enhances a building's distinctive features;
- apply knowledge of the properties and uses of wood as a construction material on projects;
- assess the relative merits of new construction materials and their appropriateness for use in the restoration/renovation field;
- know of the principles and practices of energy conservation techniques;
- apply the standards set forth in the Ontario Building Code for all types of carpentry and millwork;
- apply the basic principles of drafting in the interpretation and production of sketches, including survey and plot plans, architectural, mechanical and electrical drawings;
- select and use properly the hand and machine tools required to perform the layout, cutting, fitting and assembly operations for related projects;
- function as a general finishing and/or framing carpenter for new construction as well as restoration or renovation projects;
- recognize the interdependence among the trades on site, so that project completion is facilitated;
- apply basic entrepreneurial strategies to identify and respond to new opportunities;
- employ environmentally sustainable practices within the profession.

The Program Progression:

Fall Intake - Barrie, Owen Sound

Sem 1	Sem 2
Fall 2016	Winter 2017

Admission Requirements:

OSSD or equivalent with
- Grade 12 English (C or U)

Mature students, non-secondary school applicants (19 years or older), and home school applicants may also be considered for admission. Eligibility may be met by applicants who have taken equivalent courses, upgrading, completed their GED, and equivalency

testing. For complete details refer to: www.georgiancollege.ca/admissions/policies-procedures/

Applicants who have taken courses from a recognized and accredited post-secondary institution and/or have relevant life/learning experience may also be considered for admission; refer to the Credit Transfer Centre website for details: www.georgiancollege.ca/admissions/credit-transfer/

Graduation Requirements:
10 Mandatory Courses
1 Communications Course
1 General Education Course

Graduation Eligibility:
To graduate from this program, the passing weighted average for promotion through each semester, and to graduate is 60%. Additionally, a student must attain a minimum of 50% or a letter grade of P (Pass) or S (Satisfactory) in each course in each semester unless otherwise stated on the course outline.

Mandatory Courses
CART1011 Carpentry Fundamentals
CART1012 Applied Carpentry Fundamentals
CART1013 Construction Practices
CART1014 Formwork and Framing
CART1015 Finish Carpentry Fundamentals
CART1016 Interior and Exterior Finishes
CART1017 Advanced Framing and Sustainability
CART1018 Blueprint Reading
CART1019 CAD Drafting
MATH1007 Mathematics Techniques

Communications Course
To be selected at time of registration from the College list, as determined by testing.

General Education Course

To be selected from College list

Course Descriptions:

CART1011 Carpentry Fundamentals 56.0 Hours
This course is designed as an overview to the many components that make up a construction project. Students study and apply operations of standard safety procedures. Included are measurement, layout, assembly, and building code applications for residential and light commercial framing. Students are able to research, analyze and select appropriate materials for various construction applications.

CART1012 Applied Carpentry Fundamentals 84.0 Hours
This course provides the students with an opportunity for practical application of CART1011 Carpentry Fundamentals, which involves the safe use of hand tools, portable power tools and stationary power tools, materials and methods, with emphasis on the Ontario Building Code through site layout, framing and forming projects, and a demolition project.

CART1013 Construction Practices 70.0 Hours
This course is designed to further the student's knowledge of wood-frame construction, site preparation, layout, a variety of footing, foundation and other concrete applications, engineered building products, exterior doors and windows, a variety of roof styles, and a look at post and beam construction. Energy efficiency will be emphasized.

CART1014 Formwork and Framing 84.0 Hours
This course provides the students with an opportunity for practical application of CART1013 Construction Practices. Basic survey skills will be practiced. Residential concrete forming will be assembled. A framed structure will be completed, with emphasis on floor, wall and roof framing. The safe use of power tools will be a principal focus. Hoisting and rigging, and scaffolds and ladders will be introduced.

CART1015 Finish Carpentry Fundamentals 84.0 Hours
This course is the study of the finishing stages of residential housing and light commercial construction. It will include metal framing, drywall, interior finishing, exterior finishing, fences and decks. Renovations and retrofit will also be taught, as well as sustainable construction techniques, entrepreneurship and construction management.

CART1016 Interior and Exterior Finishes 84.0 Hours
In this practical course the students will hang and finish drywall, install interior doors, and install a variety of interior trim and exterior finishes. Suspended ceilings will also be studied.
P- CART1012 Applied Carpentry Fundamentals

CART1017 Advanced Framing and Sustainability 84.0 Hours
This course includes the framing of dormers, construction of stairs, and cabinet installation. Passive solar design and construction will be discussed, as well as energy efficiency driven upgrades and emerging green technologies. Fences and decks will also be studied.
P- CART1012 Applied Carpentry Fundamentals

CART1018 Blueprint Reading 42.0 Hours
Students interpret architectural drawings, applying these skills through the utilization of software, to generate clear and concise drawings that meet specifications of the building code.

CART1019 CAD Drafting 42.0 Hours
Students interpret architectural drawings, applying these skills through the use of software, to develop house plans that meet specifications of the building code.

MATH1007 Mathematics Techniques 42.0 Hours
This is a consolidation and review of the principles and techniques of mathematics, which are required for the technical trades. Developing and promoting the use of mental arithmetic, estimation skills, problem solving, and reasoning skills.

Course Description Legend
P = Prerequisite; C = Concurrent prerequisite; CO= Corequisite

Information contained in College documents respecting programs is correct at the time of publication. Academic content of programs and courses is revised on an ongoing basis to ensure relevance to changing educational objectives and employment market needs. The college reserves the right to add or delete programs, options, courses, timetables or campus locations subject to sufficient enrolment, and the availability of courses.