
**Carpentry
Period Technical Training Syllabus**

Instructor: Contact Details: email: @arcticcollege.ca phone: Work: 645-4850
Office hours: Additional assistance: Mon - Fri from 8:30-9:00 am and afternoons from 4:30-5:00 pm
Classroom Location: 000 Class Time: 9 am -12 pm, 1 pm – 4:30pm Total Course Hours: 240
Class Date:

Course Description

Inuit Qaujimaningit:

Apprenticeship programs integrate guiding Principles of Inuit Qaujimajuqtuqangit and recognizes the value of collaborative learning environments unique to Nunavut. Presentation of the program content will draw heavily on the Inuit concept of Inuuqatigiitsiarniq: respecting others' work and developing healthy work relationships that respect fellow workers in all trades. The instructional strategy will help to prepare the students to work collaboratively with other trades personal toward a common result. Pilimmaksarniw: development of skills through practice, effort, action, and patience. Instructors will seek to balance instructional methods through the use of learning labs and project-based learning assignments in addition to conventional lectures. Instructors will also promote an environment of inclusive participation through open dialogue and continuous feedback throughout the program drawing on the Inuit concept of Tunnganariq. This instructional strategy draws heavily upon a collaboration among students by forming working relationships with each other to collectively solve problems as they strive toward a common goal. Inuktitut will be the language of instruction wherever possible.

Courses:

Refer to **Training Profile Period** for breakdown of courses.

Course Delivery Methods:

This course is delivered in a classroom setting. Various methods of instruction are used including lecture, demonstrations, experiential activities, small group work, PowerPoint presentations, shop activities and homework.

First Period Carpentry Technical Training Syllabus

(8 weeks 30 hours per week – total 240 hours contact time)

721-161 – Safety and Building Materials <div style="text-align: right;">26 HOURS</div>	⇒	1-Safety Legislation, Regulations, and Industry Policy in the Trades <div style="text-align: right;">4 Hours</div>	2-Climbing, Lifting, Rigging and Hoisting <div style="text-align: right;">4 Hours</div>	3-Hazardous Materials and Fire Protection <div style="text-align: right;">2 Hours</div>
		4-Construction Equipment Safety <div style="text-align: right;">3 Hours</div>	5-Apprenticeship Training Program Orientation <div style="text-align: right;">2 Hours</div>	6-Solid Wood Products and Wood Joinery <div style="text-align: right;">3 Hours</div>
		7-Manufactured Construction Products <div style="text-align: right;">3 Hours</div>	8-Fasteners, Adhesives and Sealants <div style="text-align: right;">3 Hours</div>	9-Introduction to Concrete <div style="text-align: right;">2 Hours</div>
721-162 - Tools <div style="text-align: right;">78 HOURS</div>	⇒	1-Hand Tools <div style="text-align: right;">30 Hours</div>	2-Portable Power Tools <div style="text-align: right;">18 Hours</div>	3-Stationary Power Tools <div style="text-align: right;">19 Hours</div>
		4-Cutters, Bits and Abrasives <div style="text-align: right;">4 Hours</div>	5-Explosive Actuated Tools <div style="text-align: right;">5 Hours</div>	6-Pneumatic and Fuel Powered Tools <div style="text-align: right;">2 Hours</div>
721-163 – Site Preparation, Building Layout, Foundations and Floor Frame Systems <div style="text-align: right;">74 HOURS</div>	⇒	7-Preliminary Building Procedures <div style="text-align: right;">6 Hours</div>	8-Building Loads and Forces <div style="text-align: right;">2 Hours</div>	9-Foundation Supports <div style="text-align: right;">12 Hours</div>
		10-Concrete Flatwork <div style="text-align: right;">4 Hours</div>	11-Foundation Systems <div style="text-align: right;">32 Hours</div>	12-Floor Frame Support <div style="text-align: right;">9 Hours</div>
		13-Floor Frames <div style="text-align: right;">9 Hours</div>		
721-164 residential Estimating and Drawing Interpretation <div style="text-align: right;">62 HOURS</div>	⇒	1-Drawing Basics <div style="text-align: right;">2 Hours</div>	2-Orthographic Drawings <div style="text-align: right;">4 Hours</div>	3-Pictorial Drawings and Sketching <div style="text-align: right;">4 Hours</div>
		4-Drawing Standards <div style="text-align: right;">6 Hours</div>	5- drawing interpretation principles <div style="text-align: right;">16 Hours</div>	6-Math Concepts <div style="text-align: right;">18 Hours</div>
		7-Estimate Foundation Forms and Concrete Material <div style="text-align: right;">6 Hours</div>	8-Estimate Floor Systems Material <div style="text-align: right;">6 Hours</div>	

**FIRST PERIOD TECHNICAL TRAINING
CARPENTER TRADE
COURSE OUTLINE**

UPON SUCCESSFUL COMPLETION OF THIS PROGRAM THE APPRENTICE WILL BE ABLE TO PERFORM THE FOLLOWING OUTCOMES AND OBJECTIVES.

721-161: SAFETY AND BUILDING MATERIALS26 HOURS

721-161 Safety Legislation, Regulations & Industry Policy in the Trades4 Hours

Outcome: Apply legislation, regulations and practices ensuring safe work in this trade.

1. Demonstrate the application of the Occupational Health and Safety Act, Regulation and Code.
2. Describe the employer's and employee's role with Occupational Health and Safety (OH&S) regulations, Worksite Hazardous Materials Information Systems (WHMIS), fire regulations, Workers Compensation Board regulations and related advisory bodies and agencies.
3. Describe industry practices for hazard assessment and control procedures.
4. Describe the responsibilities of worker and employers to apply emergency procedures.
5. Describe tradesperson attitudes with respect to housekeeping, personal protective equipment, and emergency procedures.
6. Describe the roles and responsibilities of employers and employees with the selection and use of personal protective equipment (PPE).
7. Maintain required PPE for tasks.
8. Use required PPE for tasks.

721-161-2 Climbing, Lifting, Rigging and Hoisting4 Hours

Outcome: Use industry standard practices for climbing, lifting, rigging and hoisting in this trade.

1. Describe manual lifting procedures.
2. Describe rigging hardware and associated safety factors.
3. Select equipment for rigging loads.
4. Describe hoisting and load moving procedures.
5. Maintain personal protective equipment (PPE) for climbing, lifting and load moving equipment.
6. Use PPE for climbing, lifting and load moving equipment.

721-161-3 Hazardous Materials & Fire Protection2 Hours

Outcome: Apply industry standard practices for hazardous materials and fire protection in this trade.

1. Describe roles, responsibilities, features, and practices related to the Workplace Hazardous Materials Information System (WHMIS) program.
2. Describe three key elements of WHMIS.
3. Describe handling, storing, and transporting procedures for hazardous material.
4. Describe venting procedures when working with hazardous materials.
5. Describe hazards, classes, procedures, and equipment related to fire protection.

721-161-4 Construction Equipment Safety3 Hours

Outcome: Apply safe work practices with construction equipment.

1. Identify construction equipment.
2. Use safe work practices when working with construction equipment.

721-161-5 Apprenticeship Training Program.....2 Hours

Outcome: Manage an apprenticeship to earn journeyman certification.

1. Describe the contractual responsibilities of the apprentice, employer and Alberta Apprenticeship and Industry Training.
2. Describe the purpose of the apprentice record book.
3. Describe the procedure for changing employers during an active apprenticeship.
4. Describe the purpose of the course outline.
5. Describe the procedure for progressing through an apprenticeship.
6. Describe advancement opportunities in this trade.

721-161-6 Solid Wood Products and Wood Joinery3 Hours

Outcome: Use solid wood products and joinery.

1. Describe types and characteristics of solid wood products.
2. Describe how lumber is milled, seasoned, stored and ordered.
3. Describe the application of solid wood moldings.
4. Describe wood joining methods for fabrication and installation.

721-161-7 Manufactured Construction Products3 Hours

Outcome: Use manufactured construction products.

1. Describe the application of panel products.
2. Describe the application of engineered wood products.
3. Describe the application of synthetic and metal products.

721-161-8 Fasteners, Adhesives and Sealants.....3 Hours

Outcome: Apply fasteners, adhesives, and sealants.

1. Identify types and functions of fasteners.
2. Identify types and functions of adhesives.
3. Identify types and functions of sealants.

721-161-9 Introduction to Concrete2 Hours

Outcome: Describe the ingredients, production, placing and curing of concrete.

1. Identify the ingredients and production of concrete.
2. Describe the placement and curing of concrete.

721-162: TOOLS..... 78 HOURS

721-162-1 Hand Tools..... 30 Hours

Outcome: Use hand tools.

1. Identify hand tools.
2. Describe the uses of hand tools.
3. Use hand tools.

721-162-2 Portable Power Tools18 Hours

Outcome: Use portable power tools.

1. Identify portable power tools.
2. Describe the uses of portable power tools.
3. Use portable power tools.

721-162-3 Stationary Power Tools 19 Hours

Outcome: Use stationary power tools.

1. Identify stationary power tools.
2. Describe the uses of stationary power tools.
3. Maintain stationary power tools.
4. Use stationary power tools.

721-162-4 Cutters, Bits and Abrasives4 Hours

Outcome: Maintain tools and accessories.

1. Describe the equipment used to maintain chisels, plane irons and scrapers.
2. Describe the types and uses of sanding abrasives.
3. Describe the types, uses and maintenance of saw blades.
4. Describe the types, uses and maintenance of drill bits and router bits.

721-162-5 Explosive Actuated Tools5 Hours

Outcome: Use explosive actuated tools.

1. Identify explosive actuated tools.
2. Describe the uses of explosive actuated tools.

3. Maintain explosive actuated tools.
4. Use explosive actuated tools.

721-162-6 Pneumatic and Fuel Powered Tools2 Hours

Outcome: Use pneumatic and fuel-powered tools.

1. Identify pneumatic and fuel powered tools.
2. Describe the uses of pneumatic and fuel-powered tools.
3. Describe the maintenance of pneumatic and fuel powered tools.
4. Use pneumatic and fuel powered tool

721-163 SITE PREPARATION, BUILDING LAYOUT, FOUNDATIONS AND FLOOR FRAME SYSTEMS. 74 hours

721-163-1 Preliminary Building Procedures6 Hours

Outcome: Follow preliminary site and building layout procedures in preparation for footing placement.

1. Describe initial on-site procedures.
2. Describe building layout procedures.
3. Describe the use of levelling equipment.
4. Describe excavation and shoring procedures.

721-163-2 Building Loads and Forces..... 2 Hours

Outcome: Use construction design principles to counteract the forces that act upon buildings and structures.

1. Identify the loads and forces that act upon a building.
2. Describe construction design principles used to counteract loads and forces.

721-163-3 Foundation Supports.....12 Hours

Outcome: Construct footings.

1. Describe types of footings.
2. Describe layout and construction of footings.
3. Describe types of piles and their construction.
4. Construct a footing.

721-163-4 Concrete Flatwork..... 4 Hours

Outcome: Construct concrete flatwork.

1. Describe sub grade preparation, forming methods, reinforcement, and placing requirements for concrete flatwork.
2. Construct concrete flatwork.

721-163-5 Foundation Systems.....32 Hours

Outcome: Construct foundation systems.

1. Describe the components and erection processes for modular foundation form systems.
2. Describe steel reinforcement, concrete placement and form removal for concrete foundations.
3. Describe permanent wood foundation systems.
4. Describe insulated concrete systems.
5. Describe alternative foundation system types.
6. Describe moisture protection and backfill requirements for foundation systems.
7. Construct a foundation system.

721-163-6 Floor Frame Support 9 Hours

Outcome: Install floor frame supports.

1. Identify beam support types.
2. Describe the design and construction of beams.
3. Describe methods used to anchor the floor frame to the foundation.

721-163-7 Floor Frames 9 Hours

Outcome: Construct a floor frame.

1. Identify the components of a floor frame.
2. Describe the layout and installation procedures for a floor frame.
3. Construct a floor frame system.

721-164 RESIDENTIAL ESTIMATING AND DRAWING INTERPRETATION ..62 HOURS

721-164-1 Drawing Basics 2 Hours

Outcome: Use drawing instruments.

1. Describe the functions of drawing instruments.
2. Complete geometric shape exercises using drawing instruments.
3. Describe the applications of geometry in trade situations.
4. Draw objects incorporating shapes and angles.

721-164-2 Orthographic Drawings 4 Hours

Outcome: Draw orthographic projections of objects.

1. Describe the concept and principles of orthographic projection.
2. Draw orthographic projections of objects.

721-164-3 Pictorial Drawings and Sketching 4 Hours

Outcome: Use sketching and pictorial drawing techniques to produce isometric drawings.

1. Describe sketching and pictorial drawing methods.
2. Use isometric drawing techniques.
3. Produce isometric drawings.

721-164-4 Drawing Standards 6 Hours

Outcome: Create orthographic views, section views, detail views and a cutting list for a shop project.

1. Identify drawing conventions for orthographic and section views and details.
2. Describe the requirements for a cutting list.
3. Produce the drawings and cutting list for a shop project.
4. Sketch detail views required for a shop project.

721-164-5 Drawing Interpretation Principles..... 16 Hours

Outcome: Interpret a set of working drawings and construction documentation.

1. Identify the paper language conventions used on working drawings.
2. Describe architectural, structural, mechanical, electrical and shop drawings.
3. Identify the different views found on a set of working drawings.
4. Describe specifications, discrepancies, and path in a set of working drawings.
5. Interpret working drawings.

721-164-6 Math Concepts 18 Hours

Outcome: Apply math concepts to solve problems using both the metric and imperial systems of measurement.

1. Describe math equations and order of operations.
2. Describe calculator functions and operations.
3. Describe the metric and imperial measurement systems.
4. Perform calculations involving fractions.
5. Convert measurements between metric and imperial systems.
6. Perform calculations using the Pythagorean Theorem.
7. Determine the perimeter and centerline perimeter for various shapes and buildings.
8. Determine the area and volume for various shapes and objects.
9. Perform ratio and proportion calculations.
10. Perform percentage calculations.

721-164-7 Estimate Foundation Forms and Concrete Material Requirements ...6 Hours

Outcome: *Calculate the quantity of forming material and concrete required for concrete foundations.*

1. Describe the difference between a material takeoff and an estimate.
2. Estimate material requirements for forming strip footings, pad footings and foundation walls.
3. Estimate concrete volume requirements for footings, pilings, and foundation walls.
4. Estimate concrete volume requirements for floor areas.

721-164-8 Estimate Floor Systems Material Requirements 6 Hours

Outcome: *Calculate the quantity of framing materials required for conventionally framed floor and floor support systems.*

1. Calculate material takeoffs for floor support systems.
2. Calculate material takeoffs for floor frames.
3. Calculate material takeoffs for sub-floor coverings.

Course Calendar



First Period Carpentry Technical Training Syllabus

Day 1		Day 2		Day 3		Day 4		Day 5	
am	Registration, Orientation, Program overview Safety Legislation; 020101a	am	Climbing, lifting, Rigging and Hoisting- 020101b	am	Hazardous Materials and Fire Protection, 020101c	am	Apprenticeship Training Program, 020101e	am	Manufactured Construction Products, 020101g
pm	Safety Legislation; 020101a	pm	Climbing, lifting, Rigging and Hoisting- 020101b	pm	Construction Equipment Safety, 020101d	pm	Solid wood products and Wood joinery 020101f	pm	Manufactured Construction Products, 020101g
Day 6		Day 7		Day 8		Day 9		Day 10	
am	Introduction to Concrete, 020101i	am	Hand Tools; 020102a	am	Hand Tools; 020102a	am	Hand Tools; 020102a	am	Hand Tools; 020102a
pm	Hand Tools, 020102a	pm	Hand Tools; 020102a	pm	Hand Tools; 020102a	pm	Hand Tools; 020102a	pm	Hand Tools; 020102a
Day 11		Day 12		Day 13		Day 14		Day 15	
am	Hand Tools; 020102a	am	Portable Power Tools; 020102b	am	Portable Power Tools; 020102b	am	Portable Power Tools; 020102b	am	Stationary Power Tools; 020102c
pm	Portable Power Tools; 020102b	pm	Portable Power Tools; 020102b	pm	Portable Power Tools; 020102b	pm	Stationary Power Tools; 020102c	pm	Stationary Power Tools; 020102c
Day 16		Day 17		Day 18		Day 19		Day 20	
am	Stationary Power Tools; 020102c	am	Stationary Power Tools; 020102c	am	Cutters, Bits and Abrasives; 020102d	am	Pneumatic and Fuel Powered Tools; 020102f	am	Preliminary Building Procedures; 020103a
pm	Stationary Power Tools; 020102c	pm	Cutters, Bits and Abrasives; 020102d	pm	Explosive Actuated Tools; 020102e	pm	Preliminary Building Procedures; 020103a	pm	Building Loads and Forces; 020103b Foundation Supports; 020103c
Day 21		Day 22		Day 23		Day 24		Day 25	
am	Foundation Supports; 020103c	am	Foundation Supports 020103c	am	Concrete Flatwork; 020103d	am	Foundation Systems; Part A: 020103eA	am	Foundation Systems Part A: 020103eA
pm	Foundation Supports; 020103c	pm	Concrete Flatwork; 020103d	pm	Foundation Systems- Part A; 020103eA	pm	Foundation Systems; Part A: 020103eA	pm	Foundation System Part A: 020103eA
Day 26		Day 27		Day 28		Day 29		Day 30	
am	Foundation Systems- Part B 020103eB	am	Foundation Systems: 020103eB	am	Foundation Systems: Part B: 020103eB	am	Floor Frame Support: 020103f	am	Floor Frame Support: 020103f
pm	Foundation Systems- Part B 020103eB	pm	Foundation Systems: 020103eB	pm	Floor Frame Support: 020103f	pm	Floor Frame Support: 020103f	pm	Floor Frames: 020103g
Day 31		Day 32		Day 33		Day 34		Day 35	
am	Floor Frames: 020103g	am	Orthographic Drawing: 020104bA	am	Pictorial Drawings: 020104c	am	Drawing Standards: 020104d	am	Drawing Interpretation: 020104eB
pm	Drawing Basics: 020104a	pm	Orthographic Drawing: 020104bB	pm	Pictorial Drawings: 020104c	pm	Drawing Interpretation: 020104eA	pm	Drawing Interpretation: 020104eC
Day 36		Day 37		Day 38		Day 39		Day 40	
am	Drawing Interpretation: 020104eD	am	Math Concepts: 020104fA	am	Math Concepts: 020104fC	am	Math Concepts: 020104fE	am	Estimate Foundations: 020104g
pm	Drawing Interpretation: 020104eE	pm	Math Concepts: 020104fB	pm	Math Concepts: 020104fD	pm	Math Concepts: 020104fE	pm	Estimate Foundations: 020104g
Day 41		Day 42		Day 43		Day 44		Day 45	
am	Estimate Floor Systems: 020104h	am	Review	am	Review	am	Review Day 3	am	Review Day 4
pm	Estimate Floor Systems: 020104g	pm		pm		pm		pm	
Day 46		Day 47		Day 48		Day 49		Day 50	
am	Review Day 5	am	Review Day 6	am	Review Day 7	am	Review Day 8	am	Review Day 9
pm		pm		pm		pm		pm	
Day 51		Day 52		Day 53		Day 54		Day 55	
am	Review	am		am	First Year Government Test	am		am	
pm		pm		pm		pm		pm	

Regulations and Attendance:

Nunavut Arctic College policies can be viewed at:

<http://www.arcticcollege.ca/en/corporate-documents/item/4937-policy-manual>

1. **Attendance Policy Procedures:** In the event of an anticipated absence, learners must notify the Instructor or the receptionist at **645-4850** prior to the start of class. Failure to do so will result in an unexcused absence, which may affect the learner's funding. Any Learner who is absent from course instruction in which he or she is enrolled for more than **5%** of the total time of the course may be terminated from that course and be deemed to have failed that course. (C.07 - Policy Manual). All students are required to abide by the Arctic College Attendance Policy. If you are late, leave early, or return from break late, your absence will be recorded. These times are added together and forwarded to the registrar on a daily basis.
2. **Assignments:** Learners can expect 2-3 hours of homework per day. Learners are responsible for all material provided (even if not covered in class), and Learners should include this material as homework. All assignments must be handed in on the due date. Late assignments will result in a reduced grade. Assignments one day late will be graded out of a possible 90% rather than a full 100% grade. If an assignment is 2 days late, the possible top grade will be 80% (with grading points taken of 80% rather than 100%). Learners will not receive a mark for assignments or quizzes that are submitted later than 5 working days from course completion date.
3. The Learner is required to complete all components of the course and must achieve an overall mark of at least **65%**. If the Learner were to be absent, for personal reasons (or due to inclement weather) it would be up to the Learner to make arrangements with the Instructor on the very first day back to write an exam, quiz or assignment that was missed.
4. **Inclement weather:** Nunavut Arctic College follows the GN Weather Closure Guidelines and classes are suspended when GN offices are closed due to weather. You may call **645-8055** for school closure information.
5. School lockers are not personal property and access may be required at any time. Unauthorized padlocks will be removed. All padlocks will be issued by the Maintenance Technician upon request.
6. Chewing tobacco, snuff or smoking will not be allowed in the building and is strictly prohibited. Smoking is only allowed outside in designated areas at agreed upon times in accordance to School policy. (D.01-Policy Manual)
7. Learners deemed under the influence of drugs or alcohol will be marked absent, sent home for the day and further disciplinary action may be taken. Depending on the severity of the infraction, the Learner may be terminated from the program.
8. Learners must abide by the College's Technology Acceptable Use policy. (H.01-Policy Manual)
9. Cell phones, pagers, CD players, MP3 players, earphones, cameras, or other electrical devices are **not** allowed to be brought into in the shop, lab or classroom areas unless by the request of the instructor. Learners caught using these devices in these areas may be sent home and marked absent. Disciplinary action may be taken.
10. All incoming messages for the learners taken by the receptionist at **645-4850** will be posted on the "Learner's Bulletin Board". Classes will not be interrupted due to personal phone calls except in the case of an emergency.
11. Personal Protective Equipment (PPE) must be worn at all times in labs, or as designated by the Instructor.
12. Evaluation tools, supervised exams and modules are not to be reproduced. Tests and assignments are the property of Nunavut Arctic College and must be returned.
13. Learners plagiarizing or cheating on an exam will be disciplined as per College policy. (D.01- Policy Manual)
14. Nunavut Arctic College has zero tolerance policy for bullying and harassment. Violators will be immediately dismissed from the program.
15. Students that have not paid their tuition or book fees or made arrangements for the payment of tuition or book fees, will not be allowed to attend classes.
16. Students **suspected** of being under the influence of drugs, narcotics or alcohol will be sent home for the day and marked absent.
17. Students not complying to safe work practices in the shops will be sent home and marked absent.



First Period Carpentry Technical Training Syllabus

nNgo6n3F4
Sanatuliqsarvik
Trades School

Instructor: _____

Date: _____, 2022

(Today's date)

By signing this **1st Period Technical Training Syllabus**, I acknowledge that I have received and agree to the terms therein.

Student signature: _____

Date: _____, 2022

Approved by: _____

Date: _____, 2022