

School of Trades & Heavy Industrial

APPRENTICESHIP

What are the responsibilities of the apprentice?

The apprentice is responsible for:

- Completing the required on-the-job training as assigned by the employer AND, at the end of each period of apprenticeship,
- Reviewing with his or her supervisor:
- The hours worked;
- The on-the-job training completed;
- Ensuring that his or her record book is updated at the end of each period, and forwarded to the nearest Alberta Learning Career Services Centre;
- Attending the required formal instruction;
- Making arrangements to meet personal financial needs while attending formal instruction; acquiring the text books and supplies required for formal instruction;
- Successfully completing the requirements of the formal instruction;
- Completing the required examinations;
- Advising the school:
 - if he or she becomes unemployed or employed by another person so that the contract of apprenticeship can be transferred;
 - if there is a change in address or employment;
- Carrying his or her apprentice identification card at all times while at work and producing it on request; AND,
- Registration for classes at the institution of his/her choice.

Where does apprenticeship formal instruction take place?

Formal instruction is delivered at a variety of post-secondary institutions and training establishments, depending on the trade:

- Technical institutes
- Colleges
- Vocational colleges
- Private trade schools
- Industry training centres.

How does an apprentice obtain an Alberta Journeyman Certificate?

An Alberta Journeyman Certificate is granted to an apprentice who:

- Completes the required hours of on-the-job training and receives a satisfactory report from the supervisor;
- Successfully completes the formal instruction;
- Passes all required examinations; and,
- Has forwarded his or her record book to the Career Development Centre, Alberta Learning, for completion.

When an apprentice receives an Alberta Journeyman Certificate, the new Journeyman can use the term “certified” with the name of the trade. This title lets employers and consumers know that a standard of quality or skill, established by industry, has been attained. Journeyman wages should now be paid.

Where can the Journeyman work?

The Alberta Journeyman Certificate is valid in the province of Alberta, and may be recognized in other provinces. If the journeyman holds a certificate in one of the Interprovincial Standards (Red Seal) trades and is interested in working in another province, the journeyman can write an Interprovincial Standards Program (Red Seal) exam. Journeymen who carry an Interprovincial Standards Program Red Seal on their provincial certificate would not have to write any further examinations to qualify for certification in any other province in Canada.

How to become a Registered Apprentice?

Entrance Requirements

Currently, to enter an apprenticeship you must have the educational qualifications required for the trade to which you apply. It is to your advantage to obtain as much education as possible. The further you go in school the better your chances will be to get an apprenticeship and succeed in your training. In trades where a minimum level of education is required, you must present a transcript of your school marks when you apply for apprenticeship. If you cannot obtain a school transcript, you will be required to write an approved entrance exam. In certain trades, all applicant must write an entrance exam.

Perhaps the most difficult entrance requirement to meet is finding suitable employment with an employer who is a Journeyman or employs a Journeyman in the trade of your choice. To apply for an apprentice position, you should go in person to firms that work in the trade you have selected. You may have to apply to several firm before you find an employer who has a position for an apprentice.

Application Procedures

Once you're employed, apprenticeship forms must be signed by both you and your employer. Application forms are available online. If you think you have related work experience and/or training that could be credited toward your apprenticeship, discuss it with your employer and request credit on the application form. Once your application for apprenticeship is approved and your school transcripts or entrance exam marks are recorded, final approval is given and contracts are drawn up.

Contracts

A contract is signed by the apprentice and the employer. Before signing the contract, you should read it carefully to know your obligations and responsibilities and those of your employer. Once signed, the contract is registered with the Apprenticeship and Industry Training Division. An identification card, course outline booklet and an apprentice record book are issued to you. At this point your apprenticeship training begins.

School of Trades & Heavy Industrial

APPRENTICESHIP

How to register for technical training?

Full tuition and fees are due and payable upon registering for technical training at the Keyano College Office of the Registrar. See page 23 for details.

Refund Policy

Please refer to page 21 for full details.

Program Dates

Please contact the School of Trades & Heavy Industrial at 780-791-4881 or the Office of the Registrar at 780-791-4801 or see tradesecrets.alberta.ca for the Apprenticeship training schedule.

GUIDE TO TRADES APPRENTICESHIP				
Trades	Length (Years/Period)	Training (Weeks/Years)	Minimum Education	Compulsory or Optional Certification
Carpenter	4	8-8-8-8	REFER TO AIT'S WEBSITE FOR EACH SPECIFIC TRADES REQUIREMENTS. tradesecrets.alberta.ca	O
Crane & Hoist Equipment Operator-Boom Truck	1	6		C
Crane & Hoist Equipment Operator-Mobile Crane	3	6-6		C
Crane & Hoist Equipment Operator-Tower Crane	2	6		C
Electrician	4	8-8-8-12		C
Heavy Equipment Technician	4	8-8-8-8		C
Industrial Mechanic	4	8-8-8-8		O
Steamfitter/Pipefitter	3	8-8-8		C
Welder	3	8-8-8		C

NOTE: See a consultant at Alberta Learning Apprenticeship and Industry Training for trades not listed on this page, and for updated minimum education requirements.

Training

When the formal apprenticeship is arranged, the training program becomes available. Experience is gained and trades skills developed in various phases of the trade under the guidance of qualified journeypersons.

Apprentices under contract are required and privileged to attend technical training programs designed for their particular trade. These are short programs of four to twelve weeks in each year of apprenticeship. Training is also intended to instill respect for the trade by emphasizing quality of workmanship.

Attendance and Punctuality

Technical apprenticeship training is considered an extension of the workplace in terms of attendance and punctuality. It is expected that students will manage their time in accordance with the published program schedule and will attend all classes every day.

Policy

- Instructors will inform the class on intake day of the program schedule and the expectations regarding attendance and punctuality.
- Instructors must maintain accurate daily attendance records.
- Instructors will submit weekly attendance sheets to the School of Trades & Heavy Industrial office each Friday.

Procedure

Students not in the classroom when class commences will be required to obtain a late slip from an Administrative Assistant in the main office of their campus. The late slip must be presented to the Instructor to gain admittance to the class.

- Students must report unavoidable absences from class to their instructor at the earliest opportunity. It is expected that personal appointments will be made after scheduled class hours.
- If a student is absent for any amount of time, the Instructor will complete a "special report" identifying the concern. This report will be submitted to the Program Chair and the Apprenticeship & Industry Training office.
- Following three days absence or four lates, the student will be considered terminated from the program. Re-admittance to class will only be permitted upon receipt of written recommendation from the Trade Qualification Inspector, Apprenticeship and Industry Training.

School of Trades & Heavy Industrial

APPRENTICESHIP

Progress Reports

Examinations are conducted by the Apprenticeship and Trades Certification Branch at the completion of each program. The pass mark is 70%. Progress reports showing the results of these examinations and the College rating are then issued. Supplemental tests are available. Those who fail the examinations must repeat the entire program.

Certification

A journeyperson certificate is issued to an apprentice who:

- Has completed the term of apprenticeship (four years in most trades).
- Receives a satisfactory report from his/her employer.
- Receives a satisfactory report from the school at which the apprentice attended the technical training.
- Successfully completes the test and examinations prescribed by Alberta Innovation and Advanced Education.

Transfer

Where the terms of the contract of apprenticeship cannot be fulfilled, the Director or his/her designate may, if circumstances warrant, arrange for an apprentice to be transferred to another employer.

CARPENTER

Clearwater Campus

Carpenters construct, renovate, erect and repair buildings and other structures made of wood, wood substitutes, steel and other materials. Duties vary according to the type of job. In residential jobs, carpenters crib the basement; build the house framework, walls, roof, exterior and interior finishes; and install doors, windows, flooring, cabinets, stairs, handrails, paneling, moulding and ceiling tiles. In commercial or industrial jobs, they build concrete forms, scaffolding, bridges, trestles, tunnels, shelters, towers and other structures. In maintenance jobs, they repair and remodel existing structures of all kinds. Some carpenters specialize in one type of work such as framing, bench work or finishing work.

Most carpentry tasks involve:

- Reading drawings and/or getting instructions from a supervisor
- Doing the layout including selecting materials, planning sequences and methods of work, and measuring and marking materials to avoid costly mistakes or omissions
- Cutting and shaping materials and joining them with nails, screws, bolts or glue
- Checking completed units to be sure they are level, square, plumb and the right size, shape and location
- Carpenters must work accurately and economically, and follow national and local building codes.

FOR FURTHER INFORMATION

Office of the Registrar
Keyano College
8115 Franklin Avenue
Fort McMurray, AB T9H 2H7
780-791-4801 or 1-800-251-1408
keyano.ca

CRANE & HOIST EQUIPMENT OPERATOR - BOOM TRUCK

Suncor Energy Industrial Campus

Crane and hoisting equipment operators service and operate the hoist and swing equipment used to move machinery, materials and other large objects. Crane and hoisting equipment operators - boom truck operators set up, service and operate hydraulic booms that are mounted on turrets that are affixed to trucks and are capable of moving heavy loads.

Operators manipulate a number of pedals and levers to rotate the crane and raise and lower loads. They often perform all or some of these operations simultaneously.

Certification is required when operating:

- Booms (including telescoping booms and articulating booms possessing live lines) capable of swinging, hoisting and booming up and down with a lifting capacity of greater than 5 tons (4.5 tonnes) and less than 45 tons (40.8 tonnes)
- Articulating booms WITHOUT live lines with a lifting capacity of greater than 8 tons (7.3 tonnes) and less than 45 tons (40.8 tonnes).

FOR FURTHER INFORMATION

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CRANE & HOIST EQUIPMENT OPERATOR - MOBILE CRANE

Suncor Energy Industrial Campus

Crane and hoisting equipment operators service and operate the hoist and swing equipment used to move machinery, materials and other large objects. Mobile crane operators service and operate booms that are mounted on crawlers or wheeled frames as well as traveling, fixed or climbing type hoisting equipment with a vertical mast or tower and a jib.

Operators manipulate a number of pedals and levers to rotate the crane, and raise and lower its boom and one or more loadlines. Some or all of these operations may be performed simultaneously.

Certification is required when operating mobile cranes with a lifting capacity of fifteen tons (13.6 tonnes) and over. Mobile crane operators also may drive the crane to the job site, rig the machine up (pin the boom and pendant cables and pull the hoist cable in preparation for operation), and set up the machine for the lift (i.e. make it level and stable) using blocking and leveling materials.

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CRANE & HOIST EQUIPMENT OPERATOR - TOWER CRANE

Campus location alternates

Crane and hoisting equipment operators service and operate the hoist and swing equipment used to move machinery, materials and other large objects. Tower crane operators service and operate traveling, fixed, climbing or self-erecting type hoisting equipment with a vertical mast or tower and a jib.

Tower crane operators manipulate a number of pedals and levers to rotate the crane, and raise and lower its boom and one or more loadlines. Some or all of these operations may be performed simultaneously. Tower crane operators are often involved in assembling the crane on-site.

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ELECTRICIAN

Clearwater Campus

Electricians install, alter, repair and maintain electrical systems designed to provide heat, light, power, control, signal or fire alarms for all types of buildings, structures and premises.

In general, but not limited to, electricians:

- Read and interpret electrical, mechanical and architectural drawings, specifications, and applicable codes to determine wiring layouts
- Cut, thread, bend, assemble and install conduits and other types of electrical conductor enclosures and fittings
- Pull wire through conduits and holes in walls and floors
- Position, maintain and install distribution and control equipment such as switches, relays, circuit breaker panels and fuse enclosures
- Install, replace, maintain and repair electrical systems and related electrical equipment
- Install data cabling
- Splice, join and connect wire to form circuits
- Test circuits to ensure integrity and safety
- Install and maintain fibre optic systems and
- Install, replace, maintain and repair electrical generation sources and related equipment

Some electricians specialize in specific types of installations:

- Residential (housing developments)
- Commercial (office buildings)
- Institutional (hospitals)
- Industrial (plants, factories)

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HEAVY EQUIPMENT TECHNICIAN

Suncor Energy Industrial Campus

Heavy equipment technicians maintain, repair, and overhaul heavy vehicles and industrial equipment.

Maintenance and repair of vehicles and equipment may include:

- Internal combustion engines and components, both stationary and mobile
- Tracked equipment, commonly called crawler tractors
- Ground engaging equipment and components
- Earth moving equipment
- Rubber tired equipment, commonly called tractors
- On-highway and off-highway motor vehicles, commonly called trucks
- Towed on-highway and off-highway vehicles, commonly called trailers

In general, heavy equipment technicians:

- Interpret work orders and technical manuals
- Keep equipment cleaned, lubricated and maintained
- Diagnose faults or malfunctions
- Adjust equipment and repair or replace defective parts, components or systems
- Test repaired equipment for proper performance and ensure that the work done meets manufacturers' specifications and legislated regulations
- Write service reports

FOR FURTHER INFORMATION

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INDUSTRIAL MECHANIC (MILLWRIGHT)

Clearwater Campus

Industrial Mechanics install, maintain, repair and troubleshoot stationary industrial machinery and mechanical equipment in sites such as factories, production plants and recreational facilities.

On a typical job Industrial Mechanics:

- Read diagrams and schematic drawings and service manuals to determine work procedures
- Operate rigging equipment and dollies to place heavy machinery and parts
- Fit bearings, align gears and shafts, attach motors, and connect couplings and belts to precise tolerances
- Align and test equipment, and make any necessary adjustments
- Perform predictive and operational procedures
- Repair or replace defective parts
- Service and repair hydraulic and pneumatic systems
- May do some tack welding (a weld that is adequate in size to temporarily hold components in place until it can be completely welded by a registered apprentice welder or a Journeyperson welder) and fabrication as well as maintain an inventory of replacement parts

FOR FURTHER INFORMATION

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STEAMFITTER/PIPEFITTER

Clearwater Campus

Steamfitter/Pipefitter lay out, assemble, fabricate, maintain and repair piping systems which carry water, steam, chemicals or fuel used in heating, cooling, lubricating and other processes.

To install a typical piping system in a commercial building or industrial plant, Steamfitter/Pipefitter:

- Study blueprints, drawings and specifications to determine the type of pipe and tools to use, and lay out the sequence of tasks
- Sometimes make detailed sketches for pipe and equipment fabrication and installation, as required
- Measure, cut, thread, groove, bend, assemble and install metal, plastic and fibreglass pipes, valves and fittings
- Join pipe sections, related equipment and secure in position
- Use testing equipment to check systems for leaks
Steamfitter/Pipefitter also remove and replace worn components, do general maintenance work and may work on plant shut-downs.

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WELDER

Clearwater Campus

Welders join or sever metals in beams, girders, vessels, piping and other metal components, make metal parts used in construction and manufacturing plants, and weld parts, tools, machines and equipment.

Welding usually involves applying heat to metal pieces to melt and fuse them together. In electric arc welding, heat is created as an electric current flows through an arc between the tip of the welding electrode and the metal. In gas welding, such as oxy-acetylene welding, the flame from the combustion of burning gases melts the metal. In both arc and gas welding, filler materials are melted and added to fill the joint and make it stronger. In resistance welding, the metal piece itself is melted as current flows through it, and no filler is added.

Welders use different welding processes and fillers depending upon the type of metal, its size and shape, and requirements for finished product strength. For a typical welding project, they:

- Develop patterns for projects or follow directions given in layouts, blueprints and work orders,
- Clean, check for defects and shape component parts, sometimes using a cutting torch, and
- Weld parts together.

Welders may also build up worn parts by welding layers of high-strength hard-metal alloys onto them.

FOR FURTHER INFORMATION

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keyano.ca

School of Trades & Heavy Industrial

COKER TECHNICIAN

• CERTIFICATE

Under review, not accepting applications for 2018 -2019.

Clearwater Campus

The Coker Technician Program is open to local residents of the Wood Buffalo Region – proof of residency is required. No previous experience is necessary.

The Coker Technician Certificate program trains entry level candidates in the safe operation of the Coker Unit. The program consists of six weeks in-class training followed by a 216 hour unpaid work practicum. Students must complete the theory portion of the program in order to be granted the work practicum. The practicum is in the Coker Unit at Suncor and consists of three full cycles on shift (3 days, 3 nights, 6 off).

Suncor participates in student selection, work practicum mentorship and evaluation, and program assessment. The program gives Suncor access to a trained and skilled pool of qualified workers while students have the opportunity to demonstrate their employability skills. At the end of the program students who successfully complete the in- class theory program and the work experience will be interviewed by Suncor for job placements.

Admission Requirements

- Applicants require a High School Diploma or GED
- Local resident of the Wood Buffalo region – proof of residency required

English Language Proficiency

- TOEFL: iBT – minimum score of 71 with no score below 17
- IELTS – minimum score of 5.5
- CAEL – minimum score of 60
- MELAB – minimum score of 60
- CLBA – minimum score of 7

See page 14 for other ways to meet the English Language Proficiency requirement.

In addition to meeting English Language Proficiency students must also present the appropriate coursework to meet the admission requirements for their chosen program

Application Process

Submit the following documents to the Office of the Registrar:

- Official transcript showing academic qualifications
- A completed Keyano College Application for
- Admission and Application Fee Receipt (\$50)
- Up-to-date resume
- (TOWES) Test of Workplace Essential Skills

The top applicants who meet the education requirements and the requirements of the TOWES testing will be contacted for a Behavioural Descriptive Interview (BDI) with Suncor and Keyano College representatives.

Admission Deposit

Students accepted to the Coker Technician program are subject to a \$100 non-refundable, non-transferable admission deposit payable within 10 working days after the date on their acceptance letter. If the deposit is not paid as required, the offer of admission can be revoked by the College.

COURSE	COURSE TITLE	CREDITS
		15
COKER 101	Delayed Coking	1
COKER 102	Process Flow	1
COKER 103	Decoking	1
COKER 104	Pumps & Compressors	2
COKER 105	Instrumentation	2
COKER 106	Safety Training	2
COKER 107	Basic Computer Skills	1
COKER 108	Work Practicum	5

Course Descriptions

Please see pages 126 to 210 for an alphabetical list of all course descriptions.

Tuition & Fees

Please refer to page 23 for a detailed list of all tuition and fees for this program.

FOR FURTHER INFORMATION

780-791-4955
powerprocess@keyano.ca

TO APPLY

Office of the Registrar
Keyano College
8115 Franklin Avenue
Fort McMurray, AB T9H 2H7
780-791-4801 or 1-800-251-1408
keyano.ca

School of Trades & Heavy Industrial

HEAVY EQUIPMENT TECHNICIAN

• D I P L O M A

Suspended, not accepting applications for 2018-2019.

Suncor Energy Industrial Campus

This 20 month diploma program will allow students to acquire first hand theory and technical training focused on Caterpillar equipment.

Admission Requirements

- High School diploma (GED or Certificate of Achievement will not be accepted as an equivalency)
- Completion of the Candidate Profile
- Successful completion of a Differential Aptitude Test
- Interview with the program coordinator and industry representative
- Canadian Citizen or Permanent Resident
- Physical Demands testing

Student selection is competitive. Students must pass all selection criteria steps before being admitted. All candidates will be notified.

English Language Proficiency

- TOEFL: iBT – minimum score of 71 with no score below 17
- IELTS – minimum score of 5.5
- CAEL – minimum score of 60
- MELAB – minimum score of 60

Admission Process

Applicants complete the following:

- Keyano College application for admission
- Differential Aptitude Test (DAT)
- Program Candidate Profile (Submit directly to the Office of the Registrar)
- Submit current resume (Submit directly to the Office of the Registrar)
- Program interview with Keyano College. Applicants will be contacted by the College to arrange a date and time

Admission Deposit

Students accepted to the program are subject to a \$100 non-refundable, non-transferable admission deposit payable within 10 working days after the date on their acceptance letter. If the deposit is not paid as required, the offer of admission can be revoked by the College.

Graduation Requirements

A pass mark of at least 60% in each course. Students must attain an overall average of 65% to be eligible to write AIT exams. Work terms will be graded as a Pass/ Fail.

Attendance and Punctuality

Technical training is considered an extension of the workplace. Students of this program will follow industry standards established for apprenticeship technical training regarding attendance and punctuality.

Student terminated from the program for reasons of attendance and/or punctuality may be readmitted only by permission of the Dean, School of Trades & Heavy Industrial Division.

Program of Study

COURSE	COURSE TITLE	CREDITS
Year 1: Term I		18.5
HETD 110	Introduction to Heavy Equipment Service Industry	2.5
HETD 120	Truck and Trailer Suspension and Steering	3
HETD 130	Air Brakes	2.5
HETD 140	Fundamentals of Hydraulics	4.5
HETD 150	Safety Training	1.5
HETD 190	Work Placement	4.5
Year 1: Term II		19
HETD 210	Engine Fundamentals	6.5
HETD 220	Engine Fuel Systems	5.5
HETD 230	Electrical Fundamentals	2.5
HETD 290	Work Placement II	4.5
Year 1: Term III		18.5
HETD 310	Power Train I	5.5
HETD 320	Electrical Systems	6
HETD 330	Air Conditioning Systems	2.5
HETD 390	Work Placement III	4.5
Year 2: Term I		19
HETD 410	Machine Hydraulic Systems	6.5
HETD 420	Power Train II	6
HETD 440	On-Highway Steering	2
HETD 490	Work Placement IV	4.5
Year 2: Term II		18.5
HETD 510	Machine Electronics	3.5
HETD 520	Machine Diagnostics	4
HETD 530	Engine Diagnostics and Repair	3.5
HETD 540	Machine Specifics	3
HETD 590	Work Placement V	4.5

Course Descriptions

Please see pages 126 to 210 for an alphabetical list of all course descriptions.

Tuition & Fees

Please refer to page 23 for a detailed list of all tuition and fees for this program.

FOR FURTHER INFORMATION & TO APPLY

Office of the Registrar, Keyano College
 8115 Franklin Avenue
 Fort McMurray, AB T9H 2H7
 780-791-4801 or 1-800-251-1408 | keyano.ca

• CERTIFICATE

Suspended, not accepting applications for 2018-2019.

Clearwater Campus

The Mechanical and Construction Trades Preparation Program (MCTP) provides entry-level industry training and skill development for employment in apprenticeship trades. Current demand for skilled workers requires apprenticeship candidates who have demonstrated trade knowledge and related skills, employability skills, appropriate work ethics and safe work practices. The MCTP program offers 24 weeks of multiple trade preparation, skill development and employability skills training. The program enables students to choose and prepare for entry-level trades employment in industry. The final six weeks of training is an assignment by the student's choice of trade area to a work experience placement in industry.

Throughout the program, safety is stressed as a personal practice and industry requirement. Related study includes introduction to Loss Control Management, Occupational Health and Safety Legislation, W.H.M.I.S., Standard First Aid, CPR, and response to emergency situations. The program is task-oriented to actual job conditions as closely as possible.

Students successfully completing the program will have demonstrated basic theory and practical trade knowledge and will have acquired selected apprenticeship-level trade skills in both construction and mechanical trade areas. Graduates receive a program certificate, transcript and for employment purposes, an industry-based job performance evaluation from their work experience placement.

Admission Requirements

- 18+ years of age by the first day of classes
- Grade 10 Academic Proficiency
- Candidates are tested for aptitude and academic proficiency

English Language Proficiency

- TOEFL: iBT – minimum score of 71 with no score below 17
- IELTS – minimum score of 5.5
- CAEL – minimum score of 60
- MELAB – minimum score of 60
- CLBA – minimum score of 7

See page 14 for other ways to meet the English Language Proficiency requirement.

In addition to meeting English Language Proficiency students must also present the appropriate coursework to meet the admission requirements for their chosen program.

Admission Process

Applicants complete the following:

- Keyano College application for admission
- MCTP Applicant Profile
- Interview with Program Chair

Admission Deposit

Students accepted to the MCTP program are subject to a \$100 non-refundable, non-transferable admission deposit payable within 10 working days after the date on their acceptance letter. If the deposit is not paid as required, the offer of admission can be revoked by the College.

Graduation Requirements

Pass mark of 50% in each course plus an overall average of 60% required.

Attendance and Punctuality

Technical training is considered an extension of the workplace. Students of this program will follow industry standards established for apprenticeship technical training regarding attendance and punctuality. Students terminated from the program for reasons of attendance and/or punctuality may be readmitted only by permission of the Dean, School of Trades & Heavy Industrial Division.

Program of Study

COURSE	COURSE TITLE	CREDITS
Year 1: Certificate • Term I		360
MCT 111	General Education	60
MCT 112	Personal Management	60
MCT 132	Blueprint Reading & Sketching	45
MCT 138	Welding	60
MCT 139	Mechanics	60
MCT 140	Parts	15
MCT 143	Carpentry	60
Year 1: Term II		420
MCT 131	Electrical	60
MCT 137	Industry Placement	240
MCT 141	Pipefitting/Plumbing	60
MCT 142	Industrial Mechanic	60

Course Descriptions

Please see pages 126 to 210 for an alphabetical list of all course descriptions.

Tuition & Fees

Please refer to page 23 for a detailed list of all tuition and fees for this program.

FOR FURTHER INFORMATION

780-791-4906 | tradesinfo@keyano.ca

TO APPLY

Office of the Registrar, Keyano College
 8115 Franklin Avenue; Fort McMurray, AB T9H 2H7
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• CERTIFICATE

Clearwater Campus

The program is delivered through iLearn (Moodle) which is a computer managed, self-paced course that is done at your convenience. The program provides access to a comprehensive question bank designed to highlight subjects in the Alberta Boiler's Branch syllabi.

As students study through the Power Engineering book and workbook, they test their knowledge by completing chapter quizzes, S test and E-exams online. All e-exams are supervised exams that must be done at a certified testing facility.

The online program offers evening tutorial assistance by qualified Instructors on an appointment basis every Tuesday and Thursday in the Bob Lamb Building.

Program Dates

Programs start on the 1st of every month. Students will have 6 months from the start of the program to complete Part A and 6 months to complete Part B theory.

This program is open to any individual interested in pursuing a career in the power engineering field. No previous experience is necessary. Upon successful completion students are eligible to write the Alberta Boiler Safety Association Interprovincial 4th class examinations.

ABSA will credit students who successfully complete Keyano College's theory portion of 4th Class Part A&B with six months of steam time.

Admission Requirements

It is strongly recommended that students have

- Math 20-1 or 20-2
- Physics 20 or Science 20
- English 20.

Program of Study

COURSE	COURSE TITLE	CREDITS
PART A		8
PELM 4100	Applied Science	4
PELM 4200	Plant Services	4
PART B		8
PELM 4300	Steam Generation	4
PELM 4400	Prime Movers and Auxiliaries	4

Student Evaluation and Graduation Requirements

Students will be evaluated using online quizzes for each chapter/module as well as supervised tests and examinations. Students must attain a minimum of 65% in each course to be eligible for program certification and to write the ABSA exams.

Fees

Please see page 24 for the fee policy governing Power Engineering: CML programs. One (1) three-month extension may be obtained for a fee of \$150 for each Part A and Part B.

Course Descriptions

See pages 126 to 210 for an alphabetical list of all course descriptions.

FOR FURTHER INFORMATION & TO APPLY

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8115 Franklin Avenue
Fort McMurray, AB T9H 2H7
780-791-4801 or 1-800-251-1408
keyano.ca

• CERTIFICATE

Clearwater Campus

The program is delivered through iLearn (Moodle) which is a computer managed, self-paced course that is done at your convenience. The program provides access to a comprehensive question bank designed to highlight subjects in the Alberta Boiler’s Branch syllabi.

As students study through the Power Engineering book and workbook, they test their knowledge by completing chapter quizzes, S test and E-exams online. All e-exams are supervised exams that must be done at a certified testing facility.

The online program offers evening tutorial assistance by qualified instructors on an appointment basis every Tuesday and Thursday in the Bob Lamb Building.

Program Dates

Programs start on the 1st of every month. Students will have 6 months from the start of the program to complete Part A and 6 months to complete Part B theory.

THIRD CLASS POWER ENGINEERING

This program is open to any individual with an Alberta Fourth Class Power Engineering Certificate. Upon successful completion students are eligible to write the Alberta Boiler Safety Association Interprovincial Third Class examination.

ABSA will credit students who successfully complete Keyano College’s theory portion of the 3rd Class Part A&B with six months of steam time.

Admission Requirements

ABSA Fourth Class Power Engineering Certificate

Program of Study

COURSE	COURSE TITLE	CREDITS
PART A		8
PELM 3100	Applied Science	4
PELM 3200	Plant Services	4
PART B		8
PELM 3300	Steam Generation	4
PELM 3400	Prime Movers and Auxiliaries	4

Student Evaluation and Graduation Requirements

Students will be evaluated using online quizzes for each chapter/module as well as supervised tests and examinations. Students must attain a minimum of 65% in each course to be eligible for program certification and to write the ABSA exams.

Fees

Please see page 24 for the fee policy governing Power Engineering: CML programs. One (1) three- month extension may be obtained for a fee of \$150 for each Part A and Part B.

Course Descriptions

See pages 126 to 210 for an alphabetical list of all course descriptions.

FOR FURTHER INFORMATION & TO APPLY

Office of the Registrar
 Keyano College
 8115 Franklin Avenue
 Fort McMurray, AB T9H 2H7
 780-791-4801 or 1-800-251-1408
 keyano.ca

• CERTIFICATE

Clearwater Campus

Power engineers operate, maintain and manage industrial plants that use equipment such as boilers and refrigeration units. Keyano College's Power Engineering Co-op Programs addresses the critical shortage of power engineers in northern Alberta.

Local and regional industry partners have supported the program since 1996. Current partners make up a Steering Committee which participates in student selection, work practicum mentorship, evaluation, and program assessment. These employers gain access to a trained and skilled pool of qualified 4th and 3rd class power engineers while students gain tremendous opportunities to showcase their technical and employability skills to potential employers.

The work practicum may be outside of the Wood Buffalo region. All efforts will be made to assist students to obtain a work placement. These placements are based upon student academic achievement, Alberta Boiler Safety Association industry certification and industry host requirements, policies and regulations. Industry partners short list student applicants, conduct all interviews and select which students receive work term offers, therefore Keyano College cannot guarantee co-op placements.

ABSA will credit students who successfully complete Keyano College's theory portion of 4th Class Part A&B with six months of steam time.

For some academic programs, work experience is part of the curriculum. Foreign students who wish to participate in this program must apply for a co-op work permit as well as a student permit.

Admission Requirements

High School Diploma with:

- English 20-1 or English 20-2
 - Math 20-1 or Math 20-2
 - Physics 20 or Science 20 (Alberta course only)
- OR
- G.E.D. with pass mark on all 5 tests

English Language Proficiency

- TOEFL: iBT – minimum score of 80 with no score below 20
- IELTS – minimum score of 6.0
- CAEL – minimum score of 60
- MELAB – minimum score of 80

See page 14 for other ways to meet the English Language Proficiency requirement.

In addition to meeting English Language Proficiency students must also present the appropriate coursework to meet admission requirements for their chosen program.

Application Process

The following documents must be submitted to the Office of the Registrar:

- A completed Keyano College Application for Admission (applyalberta.ca)
- Official transcript showing your academic requirements
- Up-to-date resume
- Differential Aptitude Test (DAT) with minimum score of 4500 (Interview selection is competitive based on DAT score, 4500 does not guarantee a program interview)

Driver's License

Please note that a valid driver's license is required for work practicum as it is a job requirement of local industry.

Admission Deposit

Students accepted to the Power Engineering program are subject to a \$100 non-refundable, non-transferable admission deposit payable within 10 working days after the date on their acceptance letter. If the deposit is not paid as required, the offer of admission can be revoked by the College.

Attendance and Punctuality

Technical training is considered an extension of the workplace in terms of attendance and punctuality. Attendance is crucial to be successful in acquiring a work practicum. More than four unexcused absences disqualify students from work practicum eligibility.

School of Trades & Heavy Industrial

POWER ENGINEERING CO-OP 4TH CLASS

Graduation Requirements

Pass mark of 65% in each course is required to be eligible for program certification and to write ABSA exams. Work terms are graded pass/fail.

Program of Study

COURSE	COURSE TITLE	CREDITS
4th Class: Certificate • Term I (16 weeks)		16
PECO 4100	Applied Science	4
PECO 4200	Plant Services	4
PECO 4300	Steam Generation	4
PECO 4400	Prime Movers and Auxiliaries	4
Term II (6 months)		12
PECO 4500	Work Experience *	12

Next Intakes: Fall 2018 & Winter 2019.

**Students without confirmed coop work terms two weeks after the classroom course end date will not be enrolled in PECO 4500.*

**Students who successfully complete a steam lab (4th class certificate only) or 6 months of ABSA recognized steam time, may apply for Advanced Credit for PECO 4500.*

NOTE: Students must successfully graduate from 4th Class Power Engineering Coop certificate to apply and be eligible to continue into the 3rd Class Power Engineering Coop certificate.

Reinstatement Fee

Students who fail to qualify for a work term and are subsequently reinstated after meeting requirements are subject to a \$250 administrative fee.

Course Descriptions

See pages 126 to 210 for an alphabetical list of all course descriptions.

Tuition & Fees

Please refer to page 23 for a detailed list of all tuition and fees for this program.

FOR FURTHER INFORMATION

Alan Block, Chair
780-791-4895
alan.block@keyano.ca
OR
780-791-4955
powerprocess@keyano.ca

TO APPLY

Office of the Registrar
Keyano College
8115 Franklin Avenue
Fort McMurray, AB T9H 2H7
780-791-4801 or 1-800-251-1408
keyano.ca

School of Trades & Heavy Industrial

POWER ENGINEERING CO-OP 3RD CLASS

• CERTIFICATE

Clearwater Campus

Power Engineers operate, maintain and manage industrial plants that use equipment such as boilers and refrigeration units. Keyano College's Power Engineering Co-op Programs addresses the critical shortage of power engineers in northern Alberta.

Local and regional industry partners have supported the program since 1996. Current partners make up a Steering Committee which participates in student selection, work practicum mentorship, evaluation, and program assessment. These employers gain access to a trained and skilled pool of qualified 4th and 3rd class power engineers while students gain tremendous opportunities to showcase their technical and employability skills to potential employers.

The work practicum may be outside of the Wood Buffalo region. All efforts will be made to assist students to obtain a work placement. These placements are based upon student academic achievement, Alberta Boiler Safety Association industry certification and industry host requirements, policies and regulations. Industry partners short list student applicants, conduct all interviews and select which students receive work term offers, therefore Keyano College cannot guarantee co-op placements.

For some academic programs, work experience is part of the curriculum. Foreign students who wish to participate in this program must apply for a co-op work permit as well as a student permit.

ABSA will credit students who successfully complete Keyano College's theory portion of 4th Class Part A&B with six months of steam time.

Admission Requirements

- Successful completion of 4th Class Part A & B theory courses from a recognized post-secondary institution.
- Proof of successful completion of a recognized post-secondary institution 200 hour Power Lab course.

English Language Proficiency

- TOEFL: iBT – minimum score of 80 with no score below 20
- IELTS – minimum score of 6.0
- CAEL – minimum score of 60
- MELAB – minimum score of 80

See page 14 for other ways to meet the English Language Proficiency requirement.

In addition to meeting English Language Proficiency students must also present the appropriate coursework to meet admission requirements for their chosen program.

Application Process

Returning Graduates of 4th Class Coop Certificate

- Completed Keyano College Application for Readmission form
- Successful completion of PECO 4500 or CR OR
- Proof of Steam lab completion

New Applicants

- A completed Keyano College Application for Admission
- Up-to-date resume
- Official transcript
- Interview with a program representative may be required

Driver's License

Please note that a valid driver's license is required for work practicum as it is a job requirement of local industry.

Admission Deposit

Students accepted to the Power Engineering program are subject to a \$100 non-refundable, non-transferable admission deposit payable within 10 working days after the date on their acceptance letter. If the deposit is not paid as required, the offer of admission can be revoked by the College.

School of Trades & Heavy Industrial POWER ENGINEERING CO-OP 3RD CLASS

Attendance and Punctuality

Technical training is considered an extension of the workplace in terms of attendance and punctuality. Attendance is crucial to be successful in acquiring a work practicum. More than four unexcused absences disqualify students from work practicum eligibility.

Graduation Requirements

Pass mark of 65% in each course is required to be eligible for program certification and to write ABSA exams. Work terms are graded pass/fail.

Program of Study

COURSE	COURSE TITLE	CREDITS
3rd Class: Certificate: Term I (16 weeks)		16
PECO 3100	Applied Science	4
PECO 3200	Plant Services	4
PECO 3300	Steam Generation	4
PECO 3400	Prime Movers and Auxiliaries	4
PECO 3999	Attendance	
Term II (6 months)		12
PECO 3500	Work Experience *	12

Next Intake: Fall 2019 & Winter 2020.

**Students without confirmed coop work terms two weeks after the classroom course end date will not be enrolled in PECO 3500.*

**Students who successfully complete 6 months of ABSA recognized steam time, may apply for Advanced Credit for PECO 3500.*

Reinstatement Fee

Students who fail to qualify for a work term and are subsequently reinstated after meeting requirements are subject to a \$250 administrative fee.

Course Descriptions

See pages 126 to 210 for an alphabetical list of all course descriptions.

Tuition & Fees

Please refer to page 23 for a detailed list of all tuition and fees for this program.

FOR FURTHER INFORMATION

Alan Block, Chair
780-791-4895
alan.block@keyano.ca
OR
780-791-4955
powerprocess@keyano.ca

TO APPLY

Office of the Registrar
Keyano College
8115 Franklin Avenue
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780-791-4801 or 1-800-251-1408
keyano.ca

School of Trades & Heavy Industrial

PRE- EMPLOYMENT PROGRAMS

- **CERTIFICATE**
Carpentry
Electrician
Welder

Clearwater Campus

Keyano College is excited to offer Pre-Employment programming which will provide an alternative entry into Apprenticeship. Students will receive four weeks of academic upgrading and employability skills followed by the first period of technical training (eight weeks) in their preferred trade.

Admission Requirements

Pre-Employment Carpentry

- Minimum of 18 years of age
 - High school diploma; with a minimum of English 10-2, Math 10-3, or GED
 - Recommended High School courses: English 30-2, Math 30-3, either Physics 20, Chemistry 20 or Science 20 and related Career and Technology Studies courses
- OR**
- Approval of Chair

Pre-Employment Electrician

- Minimum of 18 years of age
 - High school diploma; with a minimum of English 20-2, Math 20-3, and Science 10
 - Recommended High School courses: English 30-2, Math 30-3, either Physics 30, Chemistry 30 or Science 30 and related Career and Technology Studies courses
- OR**
- Approval of Chair

Pre-Employment Welder

- English 10-2 AND Math 10-3
- OR**

- A pass mark in all five Canadian General Educational Development (GED) tests
- OR**
- A pass mark on the Entrance Exam
- AND**
- Minimum of 18 years of age

English Language Proficiency

- TOEFL: iBT – minimum score of 71 with no score below 17
- IELTS – minimum score of 5.5
- CAEL – minimum score of 60
- MELAB – minimum score of 60
- CLBA – minimum score of 7

See page 14 for other ways to meet the English Language Proficiency requirement.

In addition to meeting English Language Proficiency students must also present the appropriate coursework to meet the admission requirements for their chosen program.

Application Process

- Complete and submit a Keyano College application for Admission (applyalberta.ca)
- Submission of official high school transcripts showing your academic qualifications
- Completion of the Pre-Employment Applicant profile
- Interview with the program Chair

Admission Deposit

Students accepted are subject to a \$100 non-refundable, non-transferable admission deposit payable within 10 working days after the date on their acceptance letter. If the deposit is not paid as required, the offer of admission can be revoked by the College.

School of Trades & Heavy Industrial

PRE- EMPLOYMENT PROGRAMS

Program of Study

COURSE	COURSE TITLE	CREDITS
Pre-Employment Carpentry		24
PEMP 100	Employability Skills	2
PEMP 101	Trades Mathematics	2
PEMP 102	Trades Science	2
PEMP 103	Technical Communication	2
PCARP 110	Safety and Building Materials	2
PCARP 120	Tools	5
PCARP 130	Site Preparation, Building Layout, Foundations and Floor Frame Systems and Foundation	5
PCARP 140	Residential Estimating and Drawing Interpretation	4
Pre-Employment Electrical		24
PEMP 100	Employability Skills	2
PEMP 101	Trades Mathematics	2
PEMP 102	Trades Science	2
PEMP 103	Technical Communication	2
PELEC 110	Circuit Fundamentals	5
PELEC 120	EMF Sources	2
PELEC 130	Lab Fundamentals	4
PELEC 140	Canadian Electrical Code Part 1 and Drawings	4
PELEC 150	Standard and Specific Workplace Safety	1
Pre-Employment Welder		24
PEMP 100	Employability Skills	2
PEMP 101	Trades Mathematics	2
PEMP 102	Trades Science	2
PEMP 103	Technical Communication	2
PWELD 110	Workplace Safety and Tools	3
PWELD 120	Welding Technology & Properties of Metal	3
PWELD 130	GMAW, FCAW, MCAW and SAW	8
PWELD 140	Trades Math for Welders	2

Graduation Requirements

Pass mark of at least 65% in each course.

Attendance and Punctuality

Technical training is considered an extension of the workplace. Students of this program will follow industry standards established for apprenticeship technical training regarding attendance and punctuality. Students terminated from the program for reasons of attendance and/or punctuality may be readmitted only by permission of the Dean, School of Trades & Heavy Industrial Division.

Course Descriptions

Please see pages 126 to 210 for an alphabetical list of all course descriptions.

Tuition & Fees

Please refer to page 23 for a detailed list of all tuition and fees for this program.

FOR FURTHER INFORMATION

780-791-4883
tradesinfo@keyano.ca

TO APPLY

Office of the Registrar
Keyano College
8115 Franklin Avenue
Fort McMurray, AB T9H 2H7
780-791-4801 or 1-800-251-1208
Keyano.ca

School of Trades & Heavy Industrial

PROCESS OPERATIONS CO-OP

SPONSORED BY:



• CERTIFICATE

Clearwater Campus

The two year Process Operations Co-op program prepares students for entry-level positions in mineral and hydrocarbon processing primarily focused on the major oil sands companies. The program trains students in Power Engineering and Process Operations and has been offered at Keyano College since 2001. The program was developed as a result of identified needs from industry to have process operators with power engineering certification.

In two years, students complete 4th Class Power Engineering, Process Operations and 3rd Class Power Engineering (Part A). Local and regional industry partners makeup a Steering Committee which participates in student selection, work practicum mentorship and evaluation, and program assessment. These employers gain access to a trained and skilled pool of qualified workers while students gain tremendous opportunities to showcase their technical and employability skills to potential employers.

The work practicum may be outside of the Wood Buffalo region. All efforts will be made to assist students to obtain a cooperative work placement. These placements are based upon student's academic achievement, Alberta Boiler Safety Association industry certification and industry host requirements, policies and regulations. Industry partners short list student applicants, conduct all interviews and select which students receive work term offers, therefore Keyano College cannot guarantee co-op placements. For some academic programs, work experience is part of the curriculum. Foreign students who wish to participate in this program must apply for a co-op work permit as well as a student permit.

ABSA will credit students who successfully complete Keyano College's theory portion of 4th Class Part A&B with six months of steam time.

Admission Requirements

Year 1

High School Diploma with:

- English 20-1 or English 20- 2
 - Math 20-1 or Math 20-2
 - Physics 20 or Science 20 (Alberta course only)
- OR
- G.E.D. with pass mark on all 5 tests

Year 2

- Successful completion of 4th Class Part A & B theory courses from a recognized post-secondary institution.
- Proof of successful completion of a recognized post-secondary institution 200 hour Power Lab course.

English Language Proficiency

- TOEFL: iBT – minimum score of 80 with no score below 20
- IELTS – minimum score of 6.0
- CAEL – minimum score of 60
- MELAB – minimum score of 80

See page 14 for other ways to meet the English Language Proficiency requirement.

In addition to meeting English Language Proficiency students must also present the appropriate coursework to meet admission requirements for their chosen program.

Application Process

Year 1

- A completed Keyano College Application for Admission (applyalberta.ca)
- Official transcript showing your academic requirements
- Up-to-date resume
- Differential Aptitude Test (DAT) with minimum score of 4500 (Interview selection is competitive based on DAT score, 4500 does not guarantee a program interview)

Year 2

- A completed Keyano College Application for Admission
- Up-to-date resume
- Official transcript showing your academic requirements
- Interview with a program representative may be required

School of Trades & Heavy Industrial

PROCESS OPERATIONS CO-OP

Driver's License

Please note that a valid driver's license is required for work practicum as it is a job requirement of local industry.

Admission Deposit

Students accepted to the Process Operations program are subject to a \$100 non-refundable, non-transferable admission deposit payable within 10 working days after the date on their acceptance letter. If the deposit is not paid as required, the offer of admission can be revoked by the College.

Attendance and Punctuality

Technical training is considered an extension of the workplace in terms of attendance and punctuality. Attendance is crucial to be successful in acquiring a work practicum. More than four unexcused absences disqualify students from work practicum eligibility.

Graduation Requirements

Pass mark of 65% in each course is required to be eligible for program certification and to write ABSA exams. Work terms are graded pass/fail.

Program of Study

COURSE	COURSE TITLE	CREDITS
Year 1: Term I (16 weeks)		16
PROC 101	Applied Science	4
PROC 102	Plant Services	4
PROC 103	Steam Generation	4
PROC 104	Prime Movers and Auxiliaries	4
Year 1: Term II (6 months)		12
PROC 105	Work Practicum	12
Year 2: Term I (16 weeks)		16
PROC 210	Chemistry	1
PROC 230	Introductory Process Instrumentation	1.5
PROC 232	Advanced Process Instrumentation	2
PROC 235	Upgrading Processes	2
PROC 250	Environmental Management and Processes	1.5
PROC 3100	Applied Science	4
PROC 3200	Plant Services	4
Year 2: Term II (6 months)		12
PROC 260	Work Practicum	12

Next Intake: Fall 2019 & Winter 2020.

**Students without confirmed coop work terms two weeks after the classroom course end date will not be enrolled in PROC 105 or PROC 260.*

**Students who successfully complete a steam lab (Year 1 only) or 6 months of ABSA recognized steam time, may apply for Advanced Credit for PROC 105. See page 27 for further details regarding Advanced Credit.*

NOTE: Students must successfully complete Year 1 to be eligible to continue into the Year 2.

For some academic programs, work experience is part of the curriculum. International students who wish to participate in this program must apply for a Coop Work Permit as well as a Study Permit. Please visit www.cic.gc.ca.

Reinstatement Fee

Students who fail to qualify for a work practicum and are subsequently reinstated after meeting requirements are subject to a \$250 administrative fee.

Course Descriptions

Please see pages 126 to 210 for an alphabetical list of all course descriptions.

Tuition & Fees

Please refer to page 23 for a detailed list of all tuition and fees for this program.

FOR FURTHER INFORMATION

Alan Block, Chair
780-791-4895
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TO APPLY

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