First Period Technical Training

- Electrician -

(8 Weeks @ 30 Hours per Week = 240 hours)

Instructor(s):

Office Hours:
Monday through Friday: 8:00 AM – 4:30 PM

Craig Cail – Chair
Office CC117 – Clearwater Campus
Office Phone 780-715-3902
Craig.Cail@keyano.ca

Kyle Forrest - Instructor
Office CC117 – Clearwater Campus
Office Phone 780-792-5736
kyle.forrest@keyano.ca

Jason Lalonde - Instructor
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Patricia Luedee - Instructor
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Dawn Ohama - Instructor
Office CC117 – Clearwater Campus
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Tim Thomas - Instructor
Office CC117 – Clearwater Campus
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tim.thomas@keyano.ca

Tim Weldon - Instructor
Office CC117 – Clearwater Campus
Office Phone 780-792-5123
timothy.weldon@keyano.ca

Required Textbooks: (available at Keyano College Bookstore approximately 2 weeks prior to start date)

First Period Electrician Apprenticeship ILMs w/supplemental texts
Alberta Learning
Edmonton: Author, 1998–, SKU 2000308

2018 Canadian Electrical Code*, Part I, 24th edition*
Canadian Standards Association
Rexdale: Canadian Standards Association, 2018, ISBN 9781488313431

Optional References:

Direct Current Fundamentals, 8th edition
Herman, Stephen L.
Thomson: Delmar, ISBN 978-1111127466

IPT's Electrical Handbook
Putz, Herb
IPT Publishing and Training, Ltd, 2008, ISBN 978-0920855980

Electrician Program Supplies (Required for all periods):

- 3-ring binders, dividers, and lined paper
- 6 or 12 inch ruler
- Pens, pencils, highlighters, erasers
- Calculator (with no programmable memory; Sharp 520 is recommended)
- CSA approved safety boots
- Safety Glasses
- Gloves – Mechanix are recommended
- Electrical stencil is recommended

Learning Outcomes

Upon successful completion of Section One – *Standard & Specific Workplace Safety* – you will be able to:

1. Describe legislation, regulations and practices intended to ensure a safe work place in this trade.
2. Describe the use of personal protective equipment (PPE) and safe practices for climbing, lifting, rigging and hoisting in this trade.
3. Describe the safety practices for hazardous materials and fire protection in this trade.
4. Describe the Alberta Electrician Apprenticeship Training Program.
5. Apply safe work practices for electricians.

Upon successful completion of Section Two – *Circuit Fundamentals* – you will be able to:

1. Solve trade-related problems using basic mathematical skills.
2. Predict how changes in the value of voltage, current or resistance affects the circuit.
3. Connect and analyze a series resistive circuit.
4. Connect and analyze parallel resistive circuit.
5. Connect and analyze series=parallel resistive circuits.
6. Connect and analyze an Edison 3-wire system.
7. State and analyze the relationship between work, energy, power and efficiency.

Upon successful completion of Section Three – *EMF Sources* – you will be able to:

1. Identify the methods of producing Electromotive Force (EMF).
2. Identify the requirements for installation and maintenance of batteries.
3. State the characteristics of magnetic and electromagnetic materials.
4. Explain the generation of electricity in ac and dc generators.

Upon successful completion of Section Four – *Lab Fundamentals* – you will be able to:

1. Use electrical meters to measure circuit properties.
2. Identify the properties of conductors, semiconductors insulators and fibre optic cables.
3. Splice, tap and terminate conductors.
4. Identify resistor types and ratings.
5. Design and connect switching circuits using schematic and wiring diagrams.
6. Connect and analyze relay control circuits.
7. Connect and analyze extra low voltage switching circuits.
8. Connect and analyze alarm systems and smoke alarms.

Upon successful completion of Section Five – *Canadian Electrical Code (CEC) Part I and Drawings* – you will be able to:

1. Recognize the purpose and organization of the Canadian Electrical Code Part I and the Alberta Electrical STANDATA.
2. Interpret the general rules in Section 2 of the CEC.

3. Determine the conductors required for installations in Section 4 of the CEC.
4. Determine the components, installation methods, grounding and bonding for a single dwelling.
5. Determine the loading on services, feeders and branch circuits for single dwellings.
6. Determine installation wiring methods.
7. Determine electrical requirements for a residential occupancy.
8. Determine code requirements for lighting equipment.
9. Determine the code requirements for Class 1 and Class 2 circuits.
10. Interpret orthographic projections, block, wiring and schematic diagrams.
11. Interpret construction drawings.
12. Interpret residential electrical construction drawings.

Grading

Your grade in this period will be based on:

Theory Circuit Fundamentals	32%
EMF Sources	16%
Lab Fundamentals	26%
Canadian Electrical Code PT 1	26%
TOTAL	**100%**

Important Phone Numbers

- **Candace Trites, Administrative Assistant** **780-791-4881**
  Call Candace if you are going to be absent from class or have any general questions or concerns.

- **Craig Cail, Electrical Program Chair** **780-715-3902**
  Call Craig if you have any concerns with class work, instructors, or if you require any type of academic accommodations.

  Call your instructor if you need information about class work, schedules or if you need extra help to learn the material.

- **Suzanne Beveridge, Alberta AIT** **780-743-7181**
  Call Suzanne if you have questions about attendance, apprenticeship, or your employer.

- **Security** **780-791-7911**
  Call security if you feel threatened while on campus, to report a fire, if you need a door unlocked, or for parking issues.

- **Office of the Registrar**
  - **Registration Assistants** **780-791-4801**

  Call this office if you have questions about fees/tuition or class availability.

IMPORTANT NOTICE

Information Regarding Fees and Procedures

If the address listed on your fee assessment sheets is different from your current address, or if your address changes anytime during the duration of your program, please go to the Student Services Centre and fill out the “Change of Address” form as Keyano College requires a current address for you at all times.

Your Student ID cards are available for pick up in the Office of the Registrar. Please have your Student ID # and photo identification available. Apprentices are required to pick up a new Student ID card every Academic Year.

For information on Awards/Bursaries, please contact the Student Services Center either in person or by phone at (780) 791-4894.

Keyano College is a paid parking facility. Parking passes can be purchased at the Cashier’s Office when you go to pay your program fees.

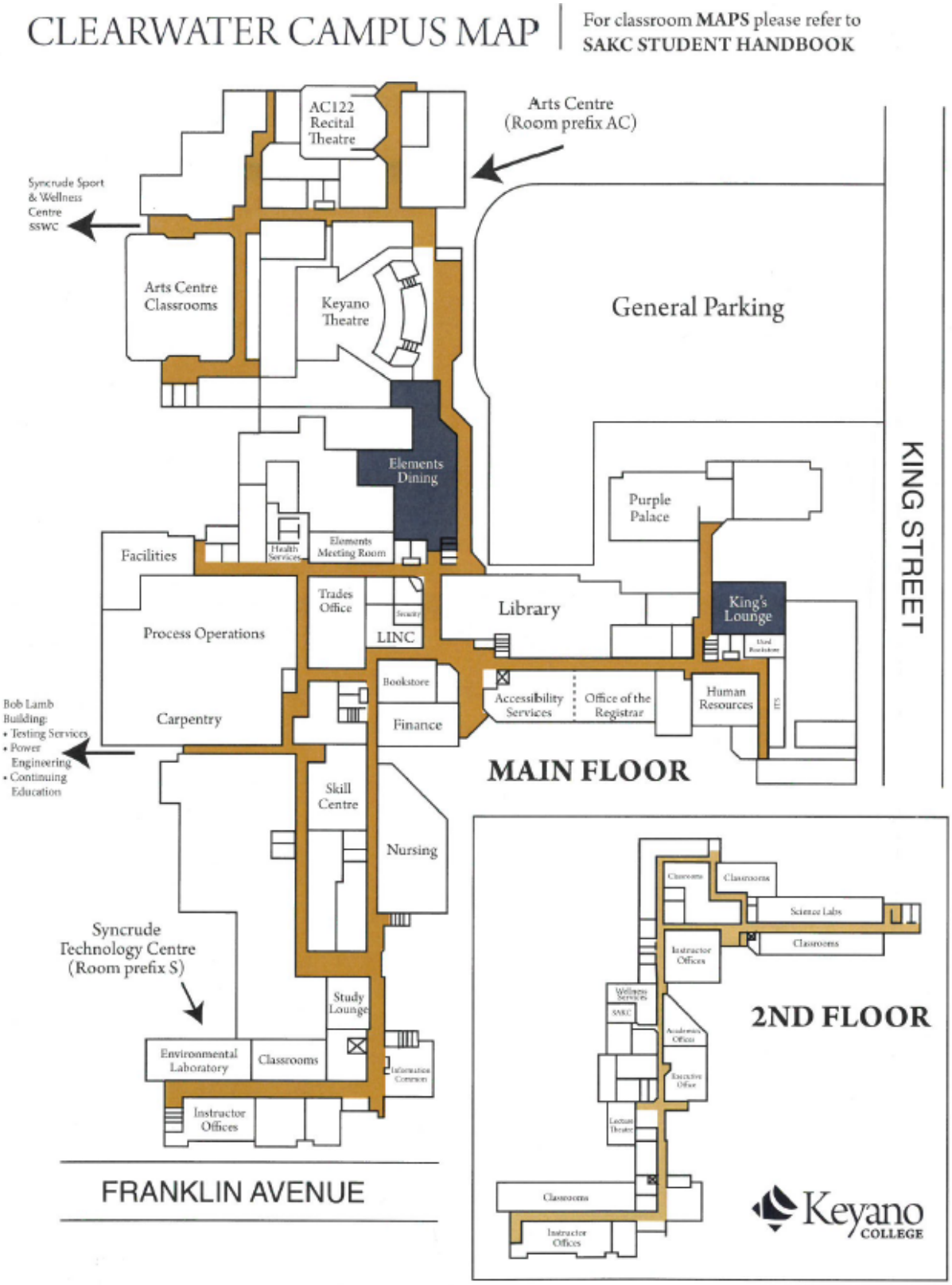
Parking Fees: (2019-2020)

2 Weeks	$12.87
1 Month	$24.77
2 Months	$39.63

Please ensure that when you are paying your program fees that you indicate to the Cashier whether or not you would like to purchase a parking pass. Unreserved, General Parking is available in lots A, B, E and F. Lots C and D are reserved staff parking. If you park in a reserved spot, you can be ticketed even if you have a hang tag or daily pass. Please see the campus map for locations of the parking lots.

Please Note:

- It is now your responsibility to submit your E.I. forms on your own time. (HRDC no longer comes to the college)
- You can submit your registration on-line http://www100.hrdcdrhc.gc.ca/ae-ei/dem-app/english/home2.html
- Or link from http://www.servicecanada.gov.ca


CLEARWATER CAMPUS MAP
For classroom MAPS please refer to
SAKC STUDENT HANDBOOK
AC122 Recital Theatre
Arts Centre (Room prefix AC)
Syncrude Sport & Wellness Centre SSWC
Arts Centre Classrooms
Keyano Theatre
General Parking
KING STREET
Elements Dining
Purple Palace
Facilities
Health Services
Elements Meeting Room
Trades Office
Security
LINC
Library
King's Lounge
Used Bookstore
Process Operations
Bookstore
Accessibility Services
Office of the Registrar
Human Resources
ETS
Bob Lamb Building:
• Testing Services
• Power Engineering
• Continuing Education
Carpentry
Finance
MAIN FLOOR
Skill Centre
Nursing
Syncrude Technology Centre (Room prefix S)
Study Lounge
Environmental Laboratory
Classrooms
Information Commons
Instructor Offices
FRANKLIN AVENUE
Classrooms
Classrooms
Science Labs
Classrooms
Instructor Offices
Wellness Services
SAKC
Academic Offices
Executive Office
Lecture Theatre
2ND FLOOR
Classrooms
Instructor Offices
Keyano COLLEGE