Third 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
Office CC117 – Clearwater Campus
Office Phone 780-791-4908
jason.lalonde@keyano.ca

Patricia Luedee - Instructor
Office CC117 – Clearwater Campus
Office Phone 780-715-3912
patricia.luedee@keyano.ca

Dawn Ohama - Instructor
Office CC117 – Clearwater Campus
Office Phone 780-792-5068
dawn.ohama@keyano.ca

Tim Thomas - Instructor
Office CC117 – Clearwater Campus
Office Phone 780-792-5612
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)

Second Period Electrician Apprenticeship ILMs w/supplemental texts
Alberta Learning, Edmonton: Author, 1998–, SKU 2000312

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

Optional References:

Electric Motor Control by Alerich – 10th Edition – Cengage
Stephen L. Herman, Delmar, ISBN 978-1133702818

Industrial Motor Control by Herman 7th Edition
Stephen L. Herman, Delmar Cengage Learning 2010, ISBN 978-1133692683

Alternating Current Fundamentals by Duff-Herman – 8th Edition
Stephen L. Herman, Thomson Delmar Learning, ISBN9781111125271

http://www.tradesecrets.gov.ab.ca/trades/pdf/trade_textbooks/003_textbooks.pdf

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 – *Three-Phase Principles* – you will be able to:

1. Perform third period math calculations.
2. State the characteristics of a three-phase electrical system.
3. Connect and analyze three-phase wye systems.
4. Connect and analyze three-phase delta systems.
5. Connect and analyze three-phase delta wye systems.
6. Calculate the power components of three-phase systems.
7. Measure and calculate balanced and unbalanced three-phase loads.
8. Connect and analyze circuits relating to power factor correction.

Upon successful completion of Section Two – *Three-Phase Motor Principles* – you will be able to:

1. State the characteristics of three-phase induction motors.
2. Analyze the stator and rotor parameters of three-phase induction motors.
3. Connect and analyze the operation of three-phase motors and starters.
4. Connect and analyze the operation of variable frequency drives.

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

1. State the characteristics of single-phase transformers.
2. Connect and analyze single-phase transformers.
3. Connect and analyze an autotransformer.
4. Connect and analyze three-phase transformer connections.
5. Connect and analyze equipment used for energy measurement.

Upon successful completion of Section Four – *Canadian Electrical Code* – you will be able to:

1. Apply the rules and regulations in the CEC that pertain to bonding and grounding.
2. Determine protection and control device requirements.
3. Determine the code requirements for installation of electrical equipment.
4. Determine the installation requirements for individual motors.
5. Determine the installation requirements for motor banks.
6. Determine the classification of hazardous locations.
7. Determine the installation requirements for Class I locations.
8. Determine the installation requirements for Class II locations.
9. Determine the installation requirements for Class III locations.
10. Determine the code requirements for section 20.
11. Determine the installation requirements for Category 1 and 2 locations.

Grading

Apprentices must successfully meet three criteria to pass technical training.

1. Minimum 65% Theory Component (cumulative weighted average)
2. Minimum 65% on each Practical Component
3. Minimum 50% on every section of study.

3 Phase Principles	40%
3 Phase Motor Principles	24%
Transformers	14%
Code	22%
Total Theory Component	**100%**
Lab/Shop	100%
Total Practical Component	**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.

- **Student Life Calendar** https://calendar.keyano.ca/student/
  Refer to the Student Life calendar for events and important dates for students.

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.

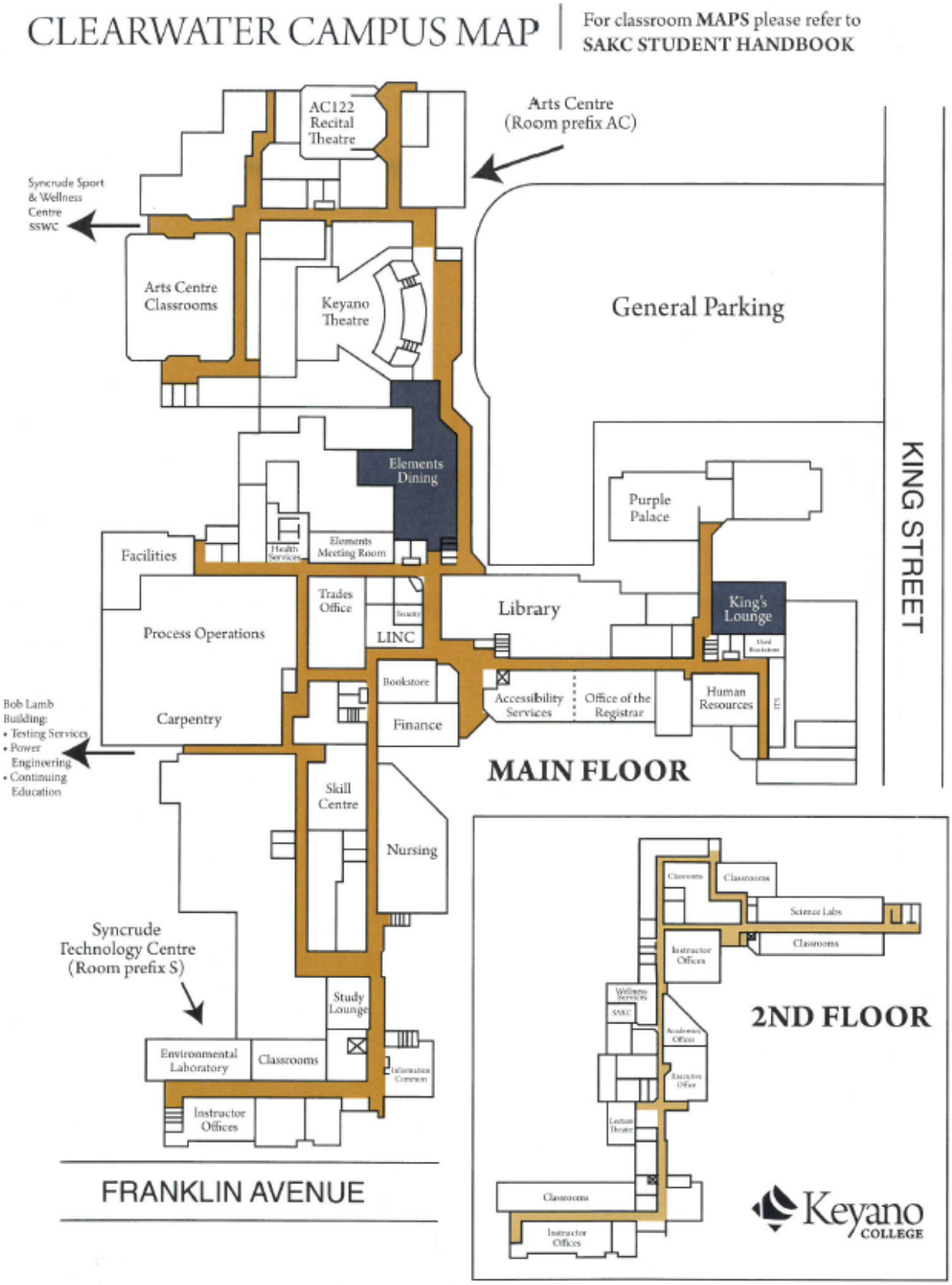
Parking Fees: (2019-2020)

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
Library
King's Lounge
Process Operations
LINC
Bookstore
Accessibility Services
Office of the Registrar
Human Resources
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
Instructor Offices
FRANKLIN AVENUE
Science Labs
2ND FLOOR
Keyano COLLEGE