A LEADING POLYTECHNIC
COMMITTED TO STUDENT SUCCESS

Instrumentation Engineering Technology

PLAR (Prior Learning Assessment and Recognition)

Candidate Guide

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Acknowledgements

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The Instrumentation Engineering Technology program is dedicated to removing barriers and broadening the access to programs at NAIT. NAIT recognizes that knowledge and skills are gained through a variety of processes including life and work experiences that may align with courses within our programs. We are committed to supporting a community in which learners will receive appropriate credit or recognition for prior learning.

Developed by program	Instrumentation Engineering Technology January 2015			
Revised	January 2015			
Web ready – RPL office	February 3, 2015			

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Why consider a PLAR assessment?

Recognition of Prior Learning (RPL) refers to the combination of flexible ways of evaluating peoples' lifelong learning, both formal and informal against a set of established standards. You can receive academic credit for your relevant lifelong learning. The Instrumentation Engineering Technology program recognizes prior learning in a number of ways.

We recognize:

- Previous formal learning from a recognized post-secondary institution through transfer of credit and credential recognition.
- Previous non-formal and in-formal learning through a comprehensive prior learning assessment and recognition process (PLAR).

What are the PLAR options?

To be eligible for PLAR, a candidate must have first applied and have been accepted to a NAIT credit program (the non-refundable tuition deposit has been paid). Open Studies students are **not** eligible to apply for PLAR. Please note that your PLAR request will be reviewed within 6 weeks of receipt of the PLAR application form, all supporting documents (in English) and verification of fee payment. Submit your PLAR request early!

Individual Course Challenge

If you have successful experience in the Instrumentation field, and have learned the skills and knowledge for **one or more** of the Instrumentation Engineering Technology courses, you may apply to be assessed for each applicable course. Please note that NAIT has a 50% residency criterion. Applicants can only receive credit for up to 50% of any NAIT credit program (See NAIT Academic Regulations and Procedures under **Residence Requirements**). Students should enrol in their courses until official confirmation has been received that credit was granted.

Fees:

- The PLAR evaluation fee is $150.00 **per** course challenge.
- The course assessment fees must be paid prior to submitting a PLAR request.
- All fees are non-refundable.
- Call NAIT and ask to speak to an Advising Centre Representative at 780-471-6248 or Toll Free at 1-877-333-6248 or AskNAIT@nait.ca

How many courses can be challenged through PLAR in the Instrumentation Engineering Technology program?

Currently we have 1 out of 24 diploma courses with PLAR challenges available. Credit is granted per course – partial credit will not be granted. Please note that NAIT has a 50% residency criterion. Applicants can only receive credit for up to 50% of any NAIT credit program. (See NAIT Academic Regulations and Procedures under **Residence Requirements**)

Is PLAR available at any time of the year?

Contact the program at instrumentation@nait.ca or call 780.378.5950 for more details. Your request will be reviewed within 6 weeks of receipt of the request form, all supporting documents (in English) and verification of fee payment. Submit your PLAR request early!

Please Note: You should enrol in your courses until official confirmation has been received that credit was granted. The program sends an email notification that the application has been processed.

It is the student's responsibility to:
-Contact the program area with any questions or concerns related to the assessment results. Appeal process available.
-Notify the program if they have decided to decline a course credit that has been granted. Any changes must be requested before the add/drop deadline.

Which courses are PLAR ready?

Instrumentation Engineering Technology Program Profile			
COURSE CODE	**COURSE NAME**	**PLAR Challenge(s) *available* through program**	**PLAR Challenge(s) *not available***
INST 1110	Process Measurements I		X
INST 1120	Industrial Practices		X
ELEC 1130	Electrical I		X
INST 1210	Process Measurements II		X
ELEC 1230	Electrical II		X
CPSC1240	Introduction to Programming	✓	
INST 1260	Industrial Equipment & Processes		X
CNTR 1270	Basic Process Control		X
INST 2310	Process Measurements III		X
INST 2340	Industrial Programming		X
CMTC 2341	Data Communications		X
CNTR 2370	Intermediate Process Control		X
INST 2380	Introduction to Analyzers		X
INST 2440	System Integration		X
CNTR 2470	Advanced Process Control		X
INST 2480	Advanced Analyzers		X
INST 2460	Instrumentation Engineering		X
INST 2450	Technical Report		X

For assistance contact NAIT and ask to speak to an Advising Centre Representative at 780-471-6248 (Toll Free: 1-877-333-6248) or askNAIT@nait.ca

Is it easier to challenge a course through PLAR – OR – take the course?

Neither is easier. By using PLAR you may reduce the repetition of studying information that you already know. The PLAR process allows you to demonstrate knowledge you already have.

PLAR is not an easy way to certification, rather a “different" way to obtain certification. Your personal level of skill and experience will dictate which courses you choose to challenge. The self-audit section found later in this guide will help you to decide if you have a good match of skill and knowledge for a specific course.

Methods of assessing prior learning

Assessment methods measure an individual’s learning against course learning outcomes. The assessment methods listed below are the ones most commonly used, but other forms of flexible assessment may be considered. These assessments may include one or a combination of the following assessment tools:

- Product validation and assessment
- Challenge exam
- Standardized tests
- Performance evaluations (including skill demonstrations, role plays, clinical applications, case studies)
- Interviews and oral exams
- Equivalency (evaluations of learning from non-credit training providers)
- Evidence or personal documentation files (providing evidence of learning from life and work experiences and accomplishments)

If I live out of town, do I have to travel to the NAIT main campus to do PLAR?

Depending on the mode of assessment, there may be times that you will need to meet with the program on campus. However, we will try to keep travel to a minimum.

What services or resources can I access if I have a disability?

Identify any possible needs related to your disability during your PLAR Audit meeting with the program. If you have a disability and want to know more about what services or resources you may be able to access for your PLAR assessment, please contact Services for Students with Disabilities.

Are there other methods to gain NAIT course credits for prior learning?

Transfer Credit and Credential Recognition

Yes, NAIT may grant credit for previous post-secondary training from a recognized institution that is similar in content, objectives, and evaluation standards to NAIT training. Transfer of credit is different from the PLAR process. Transfer credit and credential recognition guidelines may be found at: http://www.nait.ca/86612.htm

Please Note: This process should be completed prior to your PLAR challenge. If these credits cannot be used for transfer credit or credential recognition, you may be able to use these accredited courses as part of your evidence for your PLAR challenge.

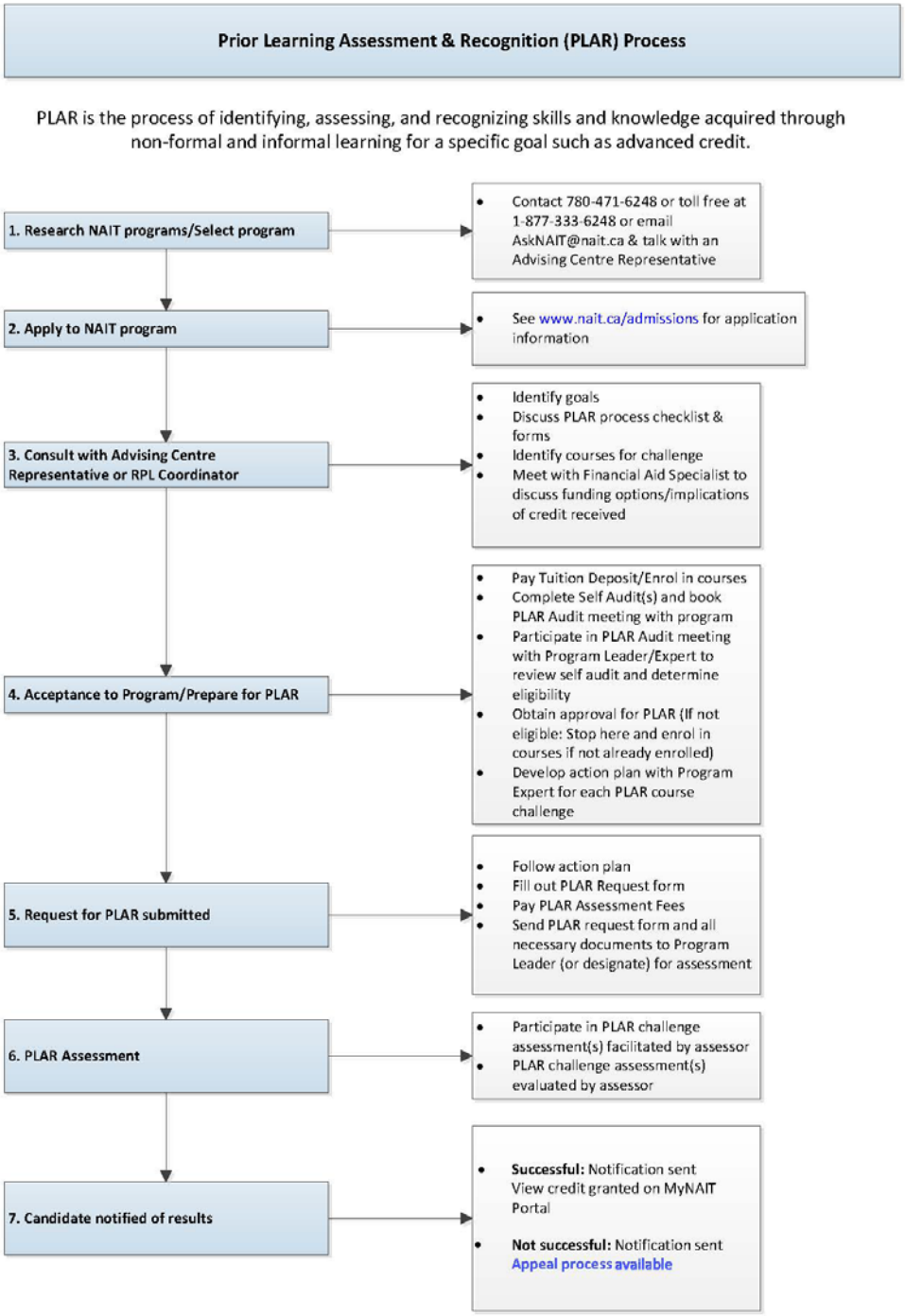
If more information is required, please contact:

- A NAIT Advising Centre Representative at 780-471-6248 (Toll Free: 1-877-333-6248) or email AskNAIT@nait.ca
- Program Advanced Credit contact (www.nait.ca under programs & courses and contacts)

What are the implications of receiving PLAR or Transfer Credit for my full time student status?

While RPL can mean fewer classes to take and pay for, students should be aware that the definition of full-time status for Financial Aid may be different than NAIT's definition of full-time status. Questions regarding financial assistance should be directed to the NAIT Financial Aid Office. A student who qualifies for advanced credit should review the NAIT Academic Regulations and Procedures, Academic Honors and if necessary, seek further consultation with Advising or Program staff since eligibility for semester honors, Dean's Honor Roll, an honors diploma/certificate or awards may be affected.

The PLAR Process



Revised January 5, 2015

Guiding principles for developing a PLAR evidence file

1. As you begin the PLAR process you will be advised if any evidence is required. This will be identified in your action plan. Check with the PLAR designated contact (see program home page Advanced Credit Contact) for your program **before** you begin to gather evidence.
2. Evidence must be valid and relevant. Your evidence must match the learning outcomes identified for each course.
    - It is your responsibility to create, collect and compile relevant evidence – if required.
3. Learning must be current.
4. The evidence should demonstrate the skills and knowledge from your experiences.
5. The learning must have both a theoretical and practical component.

Types of evidence

There are three types of evidence used to support your PLAR request:

1. Direct evidence – what you can demonstrate for yourself.
2. Indirect evidence – what others say or observe about you.
3. Self-evidence – what you say about your knowledge and experience.

Ensure that you provide full evidence to your Instrumentation Engineering Technology PLAR assessor so that your prior learning application is assessed appropriately. Well organized, easy to track evidence will also ensure that none of the evidence is missed or assessed incorrectly.

Here are some examples of evidence that you may be requested to submit as part of your evidence file (if required):

- resource lists
- written descriptions and analysis
- experience (activity) outlines
- workplace validations
- work samples
- videotapes

All documents that are submitted to NAIT may be returned to the student after the final results have been given and the advanced credit appeal deadline of 10 days has passed. A copy of transcripts and certificates may be included in your evidence file, but original transcripts that were submitted at the time of application to NAIT will be available online. Be prepared to show original parchments at the PLAR audit meeting for validation.

How long will it take to prepare evidence for PLAR?

Since the requirements are different for each course, and each candidate has different experiences, the amount of time it takes to prepare your evidence will vary.

Steps to complete a self-audit

1. Read through the levels of competence as listed below.

Mastery:	I am able to demonstrate the learning outcome well enough to teach it to someone else.
Competent:	I can work independently to apply the learning outcome.
Functional:	I need some assistance in using the outcome.
Learning:	I am developing skills and knowledge for this area.
None:	I have no experience with the outcome.

Learning outcomes

For each learning outcome listed, please self-evaluate your competency levels and record in the appropriate column for each self-audit.

2. Take a few minutes and read through the following self-audit for each course you are interested in as a PLAR candidate.

3. Check your level of competence as you read through each of the learning outcomes for each course. The information will help you in your decision to continue with your PLAR application.

4. In order to be successful in a PLAR assessment, your abilities must be at the competent or mastery level for the majority of the learning outcomes **(at least 80%)**. Some things to consider when determining your level of competence are:

   - How do I currently use this outcome?
   - What previous training have I had in this outcome: workshops, courses, on-the-job?
   - What personal development or volunteer experience do I have in this area?

   Be prepared to explain the reason you chose this level if asked by an assessor.

5. Bring the completed self-audit to a consultation meeting with the program head or faculty member in **Step 4** – of *The PLAR Process* for prior learning assessment. Select **Program Advanced Credit Contact (PLAR)** to book consultation.

Self-audit Guide(s)

CPSC1240- Introduction to Programming

This course will cover the basics of digital electronics and programming to solve problems. Topics include: logic symbols, Boolean algebra, number systems, codes, addressing, registers, I/O instructions, IF statements, case statements, loop instructions, functions, arrays, and data types/structures.

Credit unit(s): 4.5
Equivalent course(s): none
Prerequisite(s): none

CPSC1240- Introduction to Programming **Mastery:** I am able to demonstrate it well enough to teach it to someone else. **Competent:** I can work independently to apply the outcome. **Functional:** I need some assistance in using the outcome. **Learning:** I am developing skills and knowledge for this area. **None:** I have no experience with the outcome.	**Mastery**	**Competent**	**Functional**	**Learning**	**None**
1. Interpret and solve Boolean logic problems:					
▪ Describe and explain logic symbols, truth tables, and logic gate responses.					
▪ Identify and describe AND, OR, NOT logic using boolean expressions.					
▪ Develop and solve Boolean algebraic equations using De Morgan's theorem.					
2. Assess and explain how information is stored digitally:					
▪ Convert between Binary, octal and hexadecimal number systems.					
▪ Describe and explain ASCII.					
▪ Evaluate mathematical results using 2's compliment.					
3. Identify the major components and functions of a microcontroller:					
▪ Describe and sketch the general construction and the functional components of a microcontroller system using block diagrams.					
▪ Describe and explain the operation of an address decoder circuit, complete with an address map of the memory and I/O space.					
▪ Identify and explain the hardware components of a microcontroller.					
▪ Describe and explain the internal registers of a microcontroller.					

CPSC1240- Introduction to Programming **Mastery:** I am able to demonstrate it well enough to teach it to someone else. **Competent:** I can work independently to apply the outcome. **Functional:** I need some assistance in using the outcome. **Learning:** I am developing skills and knowledge for this area. **None:** I have no experience with the outcome.	**Mastery**	**Competent**	**Functional**	**Learning**	**None**
4. Use basic programming techniques to solve problems:					
▪ Explain and use libraries in programs.					
▪ Define and use different data types.					
▪ Apply input/output commands in programs..					
▪ Use math commands in programs.					
▪ Use programming software to create, modify, compile, run, and troubleshoot a program.					
▪ Apply problem solving concepts to programs.					
▪ Demonstrate and use programming best practices.					
5. Use conditional instructions to solve programming problems:					
▪ Write and interpret programs incorporating the "if/else" statement and conditional operators.					
▪ Write and interpret programs incorporating the "switch/case" statement..					
6. Use repetition instructions to solve programing problems:					
▪ Determine the repetition control method most appropriate.					
▪ Write and interpret programs incorporating for, while, and do loops.					
7. Use modular programming techniques to solve problems:					
▪ Implement functions to increase program efficiency.					
▪ Write and interpret programs using functions.					
8. Use data structures to solve engineering problems:					
▪ Create and use arrays in a program.					
▪ Define and implement structured variables in a program.					

PLAR assessment methods

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more of the following ways. Be prepared to discuss the expectations during a consultation meeting.

A. Challenge exam

The PLAR candidate will successfully complete (60% or higher) a challenge exam assessing learning outcomes 1 to 8. The challenge exam consists of theoretical questions and practical applications. The PLAR candidate is allowed two (2) hours to complete the exam. The assessor will determine the date, time, and location of the exam.

- The exam will cover all the CPSC1240 course outcomes in the table above.

Resources

- NAIT Coursepack 1149

Appendix A: Title Page

Instrumentation Engineering Technology

Diploma certificate program

ABCD 1234 – Course Name

Student name

Date

Appendix B: Employer Validation Letter

Prior Learning Assessment and Recognition

Instructions: The employment validation letter provides a statement of verification of employment in a setting relevant to the course(s) being challenged through PLAR. The employment validation letter must be printed on letterhead of your current employer and signed by the human resources department indicating the length of employment and working environment(s). A letter template has been provided for your use. Please copy the content below and fill-in the fields as directed. The completed letter should be included with your PLAR evidence and submitted to the PLAR assessor for the Instrumentation Engineering Technology program.

Letter template *(On employer's business letterhead)*

Date

To Whom It May Concern:

I have reviewed the employment records of ___ _____ and
Name of employee/candidate

I can verify that the above candidate has been employed by_____
Name of employer

for _____
Length of employment

Please contact me at _____ or _____
Phone email

with any questions or for additional information.

Sincerely,

_____ _____
Name Job title

_____
Signature

Appendix C: Evidence Binder Cover Page

Evidence File for: *Insert Course Name"

Program Name: Instrumentation Engineering Technology

Student Name:

Address:

City:

Phone:

Fax:

Email:

NAIT Student ID:

I attest that the enclosed evidence are correct and have been compiled by myself. I attest that I am the person named in this application and the evidence unless otherwise signified.

Signature: _____

Date: _____