

# Instrumentation Engineering Technology Orientation

## Topics

- [Students Program of Study](#)
  - [IET students](#)
  - [Open Studies](#)
- [Courses](#)
- [Course Selection](#)
- [Transcript](#)
  - [Credits](#)
  - [Grades](#)
  - [Special Course Requirements](#)
  - [Course Withdraws](#)
  - [Probation](#)
  - [Scholarships and Bursaries](#)
- [Lockers](#)
- [Laboratories](#)
- [Staff](#)
- [Student Responsibilities](#)
  - [Attendance](#)
- [Software](#)
- [Training Recognition](#)
  - [Instrument Technician](#)
  - [ASET](#)
  - [Bachelor of Technology](#)
  - [Bachelor of Science in Engineering](#)



## Students Program of Study

For credit students at NAIT they must be accepted into one credit program. Each program will have requirements on taking courses in order to remain in the program. They will also have a limit on the number of credits they are allowed to take in a term. Students in a program will be able to take their programs courses in addition to any open studies courses that are available up to the programs credit limit. Courses that are available through open studies are released to non program students at a later date than for the program students. This is to give the program students the first chance to get the courses that they need.

### IET students

Students accepted into the IET program are allowed to enrol into up to 18 credits or six courses each term. In order to stay active in the program they must take at least one program course each year and complete the program in seven years. Students are also required to maintain good grades see [probation](#) for further details.

### Open Studies

Courses can also be taken through open studies. All credit students have access to all Instrumentation courses through this route. Applicants that are not accepted into the program, accepted into future terms, or NAIT students working on another credential or academic upgrading, can take

Instrumentation courses. Each year we accept a number of open study students by special route into the program if they meet the following criteria: a minimum of a 2.0 GPA (in IET courses), have completed courses such that they will not displace another student in the program, (this typically means having completed the first six courses in the program) and apply to the program for entry.

[Return to Topics](#)



## Courses

The Instrumentation Engineering Technology program (IET) consists of 24 three credit courses which must be completed to obtain the IET diploma. Each term the students are expected to take 18 credits or 6 courses to complete the program in four terms. Each course can have more than one part to select: Lecture, Seminar, Laboratories. Some laboratories are reduced and only occur over 7 weeks instead of the full 15 weeks. The following table shows all of the courses in the program (they are listed in the order that you should take them see [Course Selection](#)):

Subject	Catalog Number	Course Title	Lecture Hours Per week	Seminar Hours Per week	Laboratory Hours Per week every week	Laboratory Hours Per week for 7 weeks
MATH	1155	Mathematics and Calculus I	3	1		
PHYS	1160	Physics for Instrumentation	3	2		
INST	1110	Process Measurements I	3		2	
ELEC	1130	Electricity I	3		2	
INST	1120	Industrial Practices	3		2	
CHEM	1133	Industrial Chemistry	3			
MATH	1255	Calculus II and Statistics	3			
CPSC	1240	Introduction to Programming	3		2	
CNTR	1270	Basic Process Control	3		2	
INST	1210	Process Measurements II	3		2	
INST	1260	Industrial Equipment & Processes	3	2		
ELEC	1230	Electricity II	3			2
CNTR	2370	Intermediate Process Control	3		2	
INST	2380	Introduction to Analyzers	3		1	
INST	2340	Industrial Programming	3		2	2
CMTC	2341	Data Communications	3			2
INST	2310	Process Measurements III	3		2	
INST	2360	Instrumentation Engineering I	2			2
MATE	2453	Instrumentation Materials	3			
INST	2480	Advanced Analyzers	3		2	

CNTR	2470	Advanced Process Control	3		2	
INST	2440	System Integration	3		2	
INST	2460	Instrumentation Engineering II	3		2	
INST	2450	Technical Communications	1	2	1	

[Return to Topics](#)



## Course Selection

When selecting courses to take it is important to make selections that will help you succeed in your studies. Some of the courses have prerequisites that force you to take a course before or at the same time as another course. Where we have done this for the most important links, there are many others in the program that your instructor will assume you have taken even though that may not be the case. To give yourself the best chance at succeeding in the program it is recommended that you register in courses in the order presented in the table in the [Course](#) section. If you wish to do the program in a different order it is recommended that you talk to a program advisor on the impact of that decision.

If you are selecting courses in the spring term it is important to limit your selection to two or three courses at most. This term is run in a half term (7.5 weeks). So this would be the same as taking four or six courses in a normal term as far as work load level. Not all courses are offered in the spring term, plan your courses based on what is available.

If you are funded (student loan etc.), looking at [scholarships/bursaries](#), or are on a student VISA you will have additional requirements on the number of courses you are required to take. Please see a student advisor to insure that if you plan to take less than five courses (three in spring) in a term that you still qualify.

## Overrides

If your course selection is one that you do not have a requisite, have already taken the course twice or you wish to take more courses than the system will allow you, you will need to talk to a program advisor to grant you this request. These requests must be supported by prior learning that supports your claim that you can be successful if an override is granted.

## Section Selection

When selecting a section of a course to enrol in, we have a number of suggestions to increase your chance of success in the program.

- Select all lecture sections with the same code (A01, A02 or A03). This will place you in classes with the same students which may help you as it is easier to form study groups with these students. This will also create a more balanced schedule.

- Do not book more than four hours of lecture each day of the week. It is difficult to absorb more than four hours of new material each day.
- Do not book more than six hours in a row. You need a break and we see students every year in weeks two and three that want to change their schedules because they did not do this. Unfortunately in many cases we are not able to help them.
- Select all course components with the same instructor. This is not always possible but does increase course satisfaction. Note all sections of each component are not always available.
- Register for your courses early online to insure the best selection possible as course sections fill up quickly.

[Return to Topics](#)



## Transcript

Your transcript is a record of all the courses you have taken at NAIT. It is attached to your student ID#. If you have multiple student numbers it is important to go to the registrar's office to get this corrected or you may have problems.

## Credits

If you have prior experience with all the topics in a course you can apply to receive credit for those courses. It is recommended that you complete a "[Request for Transfer Credit](#)" form as soon as you are accepted into the program. The process takes time and may result in you not taking the courses you may want if the courses close to registration while the credit is being processed. For more information checkout NAIT's web page on [recognition of prior learning](#).

## Grades

Grades for individual courses are calculated as percentages and presented on the transcript as a letter grade. For instrumentation all courses require a minimum mark of 50% to graduate however marks between 50% and 62% are conditional passes and may need to be retaken. Here is the link for NAIT's [grading system](#).

## Special Course Requirements

Many of the courses have additional requirements for you to pass them. Failure to meet these requirement will result in a failure in the course even though you may have earned a passing grade in the course. See individual course outlines to see these special requirements.

## Course Withdraws

If you withdraw (drop) a course you should check NAIT's web [page](#) on the impact of this. If you are funded (Student loan etc.), looking at [scholarships/bursaries](#), or are on a student VISA you will have additional requirements on the number of courses you are required to take. Please see a student advisor that if you plan to withdraw from a course to insure that you still qualify.

## Probation

The Instrumentation program requires that you maintain a GPA of 2.0 to remain in the program. Failure to get a GPA of 1.0 or getting a term GPA of less than 2.0 while on probation will result in the student being withdrawn from the program. If you obtain a GPA of 1.0 or greater but less than 2.0 you will be placed on probation. This does not apply to open studies students, however an open studies student that wishes to be accepted into the program will need a GPA of 2.0.

## Scholarships and Bursaries

If you wish to be considered for a scholarship or bursary it is important that you meet the selection criteria for the award. Please see NAIT's web [page](#) for more information.

[Return to Topics](#)



## Lockers

If you wish to rent a locker we recommend you get one on the second floor of The Spartan Centre for Instrumentation Technologies (Y building) close to your classrooms and laboratories. For more information on Locker rentals see NAIT's web [page](#).

[Return to Topics](#)

## Laboratories

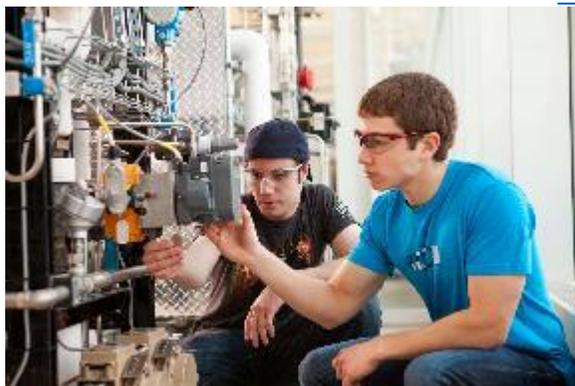
The Instrumentation labs are located on the first and second floors of the NAIT Spartan Centre for Instrumentation Technology.

Y105	Computer Aided Engineering
Y131	Analytical
Y136, Y142	Process Control
Y145	Workshop
Y147, Y205, Y207	Process Instruments
Y236	Electrical
Y237	Industrial Communications
Y238	Industrial Programming
Y239	Industrial Communications

Instrumentation Technology labs are supervised by instructional staff. One of the objectives of the labs is to develop safe working habits and learn respect for equipment; therefore, you must adhere to the following:

- Follow all safety rules and regulations.
- Handle test equipment with care.
- Ensure that your work area is clean before leaving the lab.
- DO NOT eat or drink in the lab.
- Report any unserviceable equipment to the supervising instructor.
- DO NOT REMOVE any equipment, software or supplies from the laboratory areas without permission from the supervising instructor.
- All software is protected by copyright, COPYING IS ILLEGAL.

[Return to Topics](#)



## Staff

The Instrumentation staff are all located on the third floor of the Spartan Centre. The staff is responsible for two programs the Instrumentation Engineering Technology (IET) program and the Instrument Technician (ITA) program.

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<b>Bassett, Kelvin</b>	<b>Chair - Apprenticeship</b>	<b>Y304N</b>	<b>378.5917</b>	<b>kelvinb@nait.ca</b>

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[Return to Topics](#)



## Student Responsibilities

For student conduct please see NAIT's [Students Rights and Responsibilities](#) and [Student Conduct](#) documents.

## Attendance

It is important that you attend all activities for a course. Failure to attend will result in a zero for any evaluation missed. This may result in a failing mark in the course. In addition many of our laboratories have a safety orientation at the start of the course, typically the first lab, failure to do the orientation will result in you not being allowed in the laboratory.

If you will be missing a course activities you are required to inform your instructor of the absence at the earliest possible time. This may allow the instructor to grant you a deferral for the assessment. For non-practical assessments please see NAIT's web [page](#) on this. For practical assessments generally it is not possible to grant a deferral.

Failure to attend a course for a week can result in a seven day letter being generated that may result in you being withdrawn. Contact your instructor to inform them regarding your absence and that you intend to return so that we do not start the withdraw process.

[Return to Topics](#)



## Software

As part of the Microsoft DreamSpark program that we subscribe to, a number of software titles are available to students free of charge. Under the agreement, students are entitled to one copy of each of the Software packages that are available at the site.

An e-mail from Microsoft will be sent to you (via the email you have provided us) at the end of week 4 of your first term. Make sure that your NAIT student portal has a valid e-mail address.

If you cannot find the e-mail from Microsoft, go to the following Microsoft web [page](#) and select the “forgot my password” option on the main page. Use your e-mail address for the “username”. A new temporary password will be sent out to you. If a message comes back as USER NOT FOUND, then contact the administrative assistant (Y305) to have your name added.

[Return to Topics](#)



## Training Recognition

When you complete your Instrumentation Engineering Technology diploma you have a number of different options available to you to gain additional credentials.

### Instrument Technician

NAIT IET graduates will be able to challenge their 3<sup>rd</sup>/4<sup>th</sup> year Instrument Journeyman Examination(s) immediately upon graduation and not have to wait for employment in their trade and worry about knowledge retention. Students will still need to attain the hours for all four years of Apprenticeship in the area of instrument maintenance as an indentured Instrument Apprentice; however the hours are reduced for the 1<sup>st</sup> and 2<sup>nd</sup> year. For more information see the government web [page](#).

### ASET

NAIT IET students can become student members of the Association of Science and Engineering Technology Professional of Alberta (ASET) with membership fee being waived to students. Application forms are available on-line at [www.aset.ab.ca](http://www.aset.ab.ca) NAIT IET graduates are eligible to register as certified Instrumentation Engineering Technologists with ASET after two years of suitable technology level industrial experience. **NOTE:** This Instrumentation program is Nationally Accredited. Through ASET it is possible to earn designations, see their web [page](#) on this.

### Bachelor of Technology

At NAIT it is possible to continue your education and get a Bachelor's degree with two additional years of study. For more information on this program please go to the programs NAIT's web [page](#).

### Bachelor of Science in Engineering

NAIT IET graduates with University prerequisites and a suitable NAIT average, may receive credit towards an Engineering Degree. Students intending to pursue this should contact the University for an interview.

[Return to Topics](#)