



A POLYTECHNIC INSTITUTION

School of Manufacturing Electronics and Industrial Processes

Program: Technology Teacher Education

Option:

Course Number: TTED 3002

Course Name: Precision Measurement Foundations

<b>Start Date:</b> 5/09/06	<b>End Date:</b> 06/10/06
<b>Total Hours:</b> 20 <b>Total Weeks:</b> 5	<b>Term/Level:</b> 1 <b>Course Credits:</b> 1.0
<b>Hours/Week:</b> 4 <b>Lecture:</b> 2 <b>Lab:</b> 2	<b>Shop:</b> <b>Seminar:</b> <b>Other:</b>

**Prerequisites**

Course No.	Course Name
None	

**Course Number: TTED 3002 is a Prerequisite for:**

Course No.	Course Name
TTED 3003	
TTED 3004	
TTED 3021	
TTED 3031	
TTED 3050	
TTED 3060	
TTED 4000	
TTED 4070	

**Course Description**

This is a competency-based course which provides basic skill and understanding in precision measurement to enable successful completion of the Tech Ed Diploma course work. Measurement expertise will be gained in the use of micrometers, vernier calipers, and dial indicators. Both imperial and metric systems of measurement will be learned.

**Evaluation**

Your performance in this course will be based on your demonstrated skill using precision measurement tools to measure a variety of mechanical objects. Students may attempt the practical test a maximum of three times and must attain a score of 50%.

Comments:

TOTAL	<u>100%</u>
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**Course Learning Outcomes/Competencies**

Upon successful completion, the student will be able to:

Demonstrate an understanding of both the Imperial and Metric systems of linear measurement.

Demonstrate the ability to work with and use both Imperial and Metric units of linear measurement.

Read Imperial scales to the nearest 64th of an inch.

Read Metric scales to the nearest half millimeter.

Read Imperial outside micrometer settings to 4 places of decimal.

Read Metric outside micrometer settings to 3 places of decimal.

Read Imperial vernier caliper settings to the nearest 1 thousandth of an inch.

Read Metric vernier caliper settings to the nearest 5 hundredths of a millimeter.

Read Imperial inside and depth micrometers to the nearest thousandth of an inch.

Read Metric inside and depth micrometers to the nearest hundredth of a millimeter.

Demonstrate an appropriate level of care for delicate precision measuring instruments.

Demonstrate the ability to correctly use and set small hole gauges and telescoping gauges.

Demonstrate competence in accurately measuring real components with a scale to the standards of accuracy stated above.

Demonstrate competence in correctly setting vernier calipers to accurately measure inside distances, outside distances and depths on real components to the standards of accuracy stated above.

Demonstrate competence in correctly setting micrometers without and in conjunction with small hole and telescoping gauges to measure real components within the standards of accuracy stated above.

**Verification**

I verify that the content of this course outline is current.

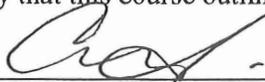


\_\_\_\_\_  
Authoring Instructor



\_\_\_\_\_  
Date

I verify that this course outline has been reviewed.



\_\_\_\_\_  
Program Head/Chief Instructor

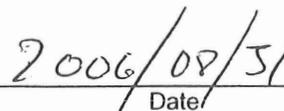


\_\_\_\_\_  
Date

I verify that this course outline complies with BCIT policy.



\_\_\_\_\_  
Dean/Associate Dean



\_\_\_\_\_  
Date

Note: Should changes be required to the content of this course outline, students will be given reasonable notice.

## Instructor(s)

Office Location: SW9-201H      Office Phone: 604 432 8365  
Office Hrs.: By appointment      E-mail Address: Alex\_Rosenthal@BCIT.CA

## Learning Resources

### *Required:*

During the course, student will receive copies of selected information sheets to support class instruction and selected worksheets to facilitate practice in reading instrument settings. During the course, students will be given extensive opportunity to practice setting and reading the instruments on mechanical components.

## Information for Students

**Assignments:** Late assignments, lab reports or projects will be devalued 10% per day late. Assignments, lab reports or projects must be done on an individual basis unless otherwise specified by the instructor.

**Makeup Tests, Exams or Quizzes:** There will be **no** makeup tests, exams or quizzes. If you miss a test, exam or quiz, you will receive zero marks. Exceptions may be made for **documented** medical reasons or extenuating circumstances. In such a case, it is the responsibility of the student to inform the instructor **immediately**.

**Ethics:** BCIT assumes that all students attending the Institute will follow a high standard of ethics. Incidents of cheating or plagiarism may, therefore, result in a grade of zero for the assignment, quiz, test, exam, or project for all parties involved and/or expulsion from the course.

**Attendance:** The attendance policy as outlined in the current BCIT Calendar will be enforced. Attendance will be taken at the beginning of each session. Students not present at that time will be recorded as absent.

**Illness:** A doctor's note is required for any illness causing you to miss assignments, quizzes, tests, projects, or exam. At the discretion of the instructor, you may complete the work missed or have the work prorated.

**Attempts:** Students must successfully complete a course within a maximum of three attempts at the course. Students with two attempts in a single course will be allowed to repeat the course only upon special written permission from the Associate Dean. Students who have not successfully completed a course within three attempts will not be eligible to graduate from the appropriate program.

**Course Outline Changes:** The material or schedule specified in this course outline may be changed by the instructor. If changes are required, they will be announced in class.

**Advancement:** Students who fail three or more courses in a term cannot advance to the next term and may be asked to discontinue from the program.

### Schedule

Week of/ Number	Outcome/Material Covered	Reference/ Reading	Assignment	Due Date
1				