

I. COURSE DESCRIPTION:

This course focuses on developing the student's number sense and problem solving abilities. While the student will make use of technology during problem solving, great emphasis will be placed on judging the reasonableness of the solutions. To this end the student will be required to estimate and think critically. Topics include a review of fundamental arithmetic and algebraic processes, solving linear equations, using formulas, measurement, practical applications in plane and solid geometry, and ratio & proportion.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Perform calculations accurately

Potential Elements of the Performance:

- perform mental arithmetic
- use estimation to check and determine the reasonableness of answers
- use technology appropriately
- round values as required
- use scientific notation

2. Solve problems involving mathematics

Potential Elements of the Performance:

- exhibit perseverance, ability, and confidence to use mathematics to solve problems
- use a variety of problem-solving strategies and exhibit logical thinking
- work effectively with others to solve problems
- estimate and check answers to problems and determine the reasonableness of results
- communicate findings both in writing and orally using appropriate mathematical language and symbolism

3. Measure and work with measurements

Potential Elements of the Performance:

- use Metric, Imperial, and U.S. Customary System of measurement
 - convert between systems of measurement
 - work with measures of length, volume, mass, time, temperature, etc.
 - make reasonable estimations of the measure of various items
 - measure various items using the appropriate methods and devices
 - calculate the perimeter and area of a parallelogram, rectangle, square, rhombus, trapezoid, triangle, circle, semi-circle, composite shapes
 - calculate volume and surface area of a right prism, cylinder, cone (including volume of a frustum of cone), sphere, and composite solids
4. Use algebraic processes to solve problems involving linear equations and formulas

Potential Elements of the Performance:

- use variable notation
 - simplify variable expressions
 - use the laws of exponents
 - evaluate expressions
 - translate verbal statements to equations
 - solve linear equations including those involving the distributive property and fractional numeric coefficients
 - verify solutions or roots
 - solve word problems
 - evaluate formulas
 - rearrange formulas to solve for one of the other variables
5. Use proportional reasoning to solve problems

Potential Elements of the Performance:

- solve equations that are proportions
- calculate amounts of gas and oil to create mixtures of specified ratios
- solve problems that involve direct variation
- solve problems that involve inverse variation

III. TOPICS:

1. Number Sense
2. Measurement
3. Algebra Review
4. Linear Equations, Formulas, and Problems
5. Ratio, Proportion, and Variation

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Calculator: SHARP Scientific Calculator EL-531.

Text: Stepping it Up, Applied Resource Calculations, Delgaty et al

The use of some kinds of calculators, cell phones, and other electronic devices may be restricted during tests.

V. EVALUATION PROCESS/GRADING SYSTEM:

| | |
|---------------------------------|-----|
| Individual Classroom Activities | 20% |
| Group Classroom Activities | 20% |
| Tests and Quizzes | 60% |

The following semester grades will be assigned to students:

| Grade | <u>Definition</u> | <i>Grade Point Equivalent</i> |
|--------------|--|--------------------------------------|
| A+ | 90 – 100% | 4.00 |
| A | 80 – 89% | 3.00 |
| B | 70 - 79% | 2.00 |
| C | 60 - 69% | 1.00 |
| D | 50 – 59% | 0.00 |
| F (Fail) | 49% and below | |
| CR (Credit) | Credit for diploma requirements has been awarded. | |
| S | Satisfactory achievement in field /clinical placement or non-graded subject area. | |
| U | Unsatisfactory achievement in field/clinical placement or non-graded subject area. | |
| X | A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. | |
| NR | Grade not reported to Registrar's office. | |
| W | Student has withdrawn from the course without academic penalty. | |

VI. SPECIAL NOTES:

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade “C”, (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.