



**Bow Valley
College**

Course Outline

MAT2791

Mathematics 20-1

Winter 2025 - Current

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MAT2791 Mathematics 20-1

COURSE DESCRIPTION

This is an Alberta Education credit course. Topics include algebra and number sense, trigonometry, quadratic functions, quadratic equations, and reciprocal functions. The -1 stream is designed for students who want to enter post-secondary programs that require the study of calculus.

REQUISITES	Earn a minimum grade of C in each of the following courses: <ul style="list-style-type: none"> • MAT1791 - Mathematics 10 C (5)
EQUIVALENTS	None
CREDITS	5
HOURS	100
ELIGIBLE FOR PLAR	No
ZERO TEXTBOOK COST	No

COURSE LEARNING OUTCOMES

Bow Valley College is committed to ensuring our graduates can demonstrate their abilities in key areas that will make them effective citizens and encourage their development as lifelong learners. In addition to the discipline-specific skills that learners acquire in their programs, the College has identified ten learning outcomes.

College-Wide Outcomes:

1. Communication
2. Thinking Skills
3. Numeracy and Financial Literacy
4. Working with Others
5. Digital Literacy
6. Positive Attitudes and Behaviours
7. Continuous Learning
8. Health and Wellness Awareness
9. Citizenship and Intercultural Competence
10. Environmental Sustainability

COURSE LEARNING OUTCOME(S) COLLEGE WIDE
OUTCOMES
SUPPORTED

1	Demonstrate an understanding of the absolute value of real numbers.	1, 2, 3, 5, 7
2	Solve problems that involve operations on radicals and radical expressions with numerical and variable radicands.	1, 2, 3, 5, 7
3	Solve problems that involve radical equations (limited to square roots).	1, 2, 3, 5, 7
4	Determine equivalent forms of rational expressions (limited to numerators and denominators that are monomials, binomials or trinomials).	1, 2, 3, 5, 7
5	Perform operations on rational expressions (limited to numerators and denominators that are monomials, binomials or trinomials).	1, 2, 3, 5, 7
6	Solve problems that involve rational equations (limited to numerators and denominators that are monomials, binomials or trinomials).	1, 2, 3, 5, 7
7	Demonstrate an understanding of angles in standard position [0° to 360°].	1, 2, 3, 5, 7
8	Solve problems, using the three primary trigonometric ratios for angles from 0° to 360° in standard position.	1, 2, 3, 5, 7
9	Solve problems, using the cosine law and sine law, including the ambiguous case.	1, 2, 3, 5, 7
10	Factor polynomial expressions.	1, 2, 3, 5, 7
11	Graph and analyze absolute value functions (limited to linear and quadratic functions) to solve problems.	1, 2, 3, 5, 7
12	Analyze quadratic functions and determine the: vertex; domain and range; direction of opening; axis of symmetry; and intercepts.	1, 2, 3, 5, 7
13	Solve problems that involve quadratic equations.	1, 2, 3, 5, 7
14	Solve, algebraically and graphically, problems that involve systems of linear-quadratic and quadratic-quadratic equations in two variables.	1, 2, 3, 5, 7
15	Solve problems that involve linear and quadratic inequalities in two variables.	1, 2, 3, 5, 7
16	Solve problems that involve quadratic inequalities in one variable.	1, 2, 3, 5, 7
17	Analyze arithmetic sequences and series to solve problems.	1, 2, 3, 5, 7
18	Analyze geometric sequences and series to solve problems.	1, 2, 3, 5, 7
19	Graph and analyze reciprocal functions (limited to the reciprocal of linear and quadratic functions).	1, 2, 3, 5, 7

COURSE MODULES AND SCHEDULE

**Course schedule subject to change, depending on delivery mode and term of study. For exact dates, please consult the Course Offering Information in Brightspace.*

WEEK/HOURS MODULES

3 Weeks	Sequences and Series: Operations and Radicals
4 Weeks	Trigonometry; Factoring and Applications
4 Weeks	Quadratic Functions and Equations; Rational Expressions and Equations
3 Weeks	Absolute and Reciprocal Functions; Linear and Quadratic Systems

ASSESSMENT

COURSE

LEARNING ASSESSMENT

WEIGHT

OUTCOME(S)

1 - 19	Supervised Assessments (Unit Exams, Final Exam, Supervised Quizzes, etc.)	75%
1 - 19	Other Assessments (Projects, Feedback Tasks, Online Quizzes, etc.)	25%

Important: For details on each assignment and exam, please see the Course Offering Information.

PERFORMANCE STANDARDS

A minimum grade of D is required to pass this course. However, a program may require a higher grade in this course to progress in the program or to meet specific program completion requirements.

Please consult with the program area or contact the program chair for further details. A minimum Grade Point Average of 2.0 is required for graduation.

GRADING SCHEME

Grade	Percentage	Grade Point	Description
A+	95-100	4.0	Exceptional: superior knowledge of subject matter
A	90-94	4.0	Excellent: outstanding knowledge of subject matter
A-	85-89	3.67	
B+	80-84	3.33	

B	75-79	3.0	Very Good: knowledge of subject matter generally mastered
B-	70-74	2.67	
C+	67-69	2.33	
C	64-66	2.0	Satisfactory/Acceptable: knowledge of subject matter adequately mastered
C-	60-63	1.67	
D+	57-59	1.33	
D	50-56	1.0	Minimal Pass
F	Less than 50	0.0	Fail: an unsatisfactory performance

REQUIRED LEARNING RESOURCES

A textbook/workbook may need to be purchased - consult the Bow Valley College Bookstore and the Course Offering Information Sheet provided by your instructor on the first day of classes for more information.

A scientific/graphing calculator may need to be purchased - consult the Course Offering Information Sheet provided by your instructor on the first day of classes for more information.

Additional learning resources may be found in the Course Offering Information or in Brightspace.

ADDITIONAL INFORMATION

A grade of C is required to take MATH0301 or MAT3791

Additional information may be found in the Course Offering Information or in Brightspace.

ACADEMIC ACCOMMODATIONS

Learners with a disability (learning, physical, and/or mental health) may qualify for academic and exam accommodations. For more information, or to apply for accommodations, learners should make an

appointment with Accessibility Services in the Learner Success Services (LSS) Department. Accessibility Services can also assist learners who may be struggling with learning but do not have a formal diagnosis. To make an appointment visit LSS on the first floor of the south campus or call 403-410-1440. It is the learner's responsibility to contact Accessibility Services and request academic accommodations. For more information, please visit our website at <http://www.bowvalleycollege.ca/accessibility>.

INSTITUTIONAL POLICIES

Bow Valley College is committed to the highest standards of academic integrity and honesty. Learners are urged to become familiar with and uphold the following policies: Academic Integrity (500-1-7), Learner Code of Conduct, Procedures and Guidelines (500-1-1), Learner Appeals (500-1-12), Attendance (500-1-10), Grading (500-1-6), Academic Continuance and Graduation (500-1-5), and Electronic Communications (300-2-13). Audio or video recording of lectures, labs, seminars, or any other teaching and learning environment by learners is allowed only with consent of the instructor as part of an approved accommodation plan. Recorded material is to be used solely for personal study and is not being used or distributed without prior written consent from the instructor.

Turnitin:

Students may be required to submit their course work to Turnitin, a third-party service provider engaged by BVC. Turnitin identifies plagiarism by checking databases of electronic books and articles, archived webpages, and previously submitted student papers. Students acknowledge that any course work or essays submitted to Turnitin will be included as source documents in the Turnitin.com reference database, where it will be used solely to detect plagiarism. The terms that apply to a student's use of Turnitin are described on Turnitin.com.

Online Exam Proctoring:

Examinations for this course may require proctoring through an online proctoring service. Online proctoring enables online exam taking within a controlled and monitored environment, thereby enhancing academic integrity. Online proctoring may occur through a variety of methods, including but not limited to:

- a. live online proctoring where a remote invigilator authenticates identity and observes completion of an exam using specialized software and recordings;
- b. automated proctoring where the exam session is recorded and AI (artificial intelligence) analyzed;
- c. browser lockdown that limits access to other applications, websites, copying, printing, screen capture and other functions; or
- d. a combination of both live/automated proctoring and browser lockdown.

Course instructors will review recordings, analyses, and data obtained through online proctoring for academic integrity infractions. It is the student's responsibility to meet the technical, software, location, and identity verification requirements necessary to enable online proctoring.

Further details of these policies are available in the Academic Calendar and on the Bow Valley College

website, bowvalleycollege.ca.

Learners are encouraged to keep a copy of this course outline for future reference.

Collection of Personal Information:

This course, including your image and voice, may be recorded and made available to you and other students taking the course section. By attending the class(es) online or in person, you consent to the collection of your personal information. If you do not wish to be recorded, please contact your instructor before starting the course/class to discuss alternative arrangements.

You may use the recordings only for educational purposes and you must not copy, share, or use the recordings for any other purpose without the instructor's express permission.

Your personal information is collected in accordance with section 33(c) of the Freedom of Information and Protection of Privacy Act (Alberta) to deliver academic programming, support learner flexibility, promote universal design for learning principles, and for purposes consistent with the course activities and outcomes. If you have any questions about the collection, disclosure, use, or protection of this information, please contact the College's Access and Privacy Officer at foip@bowvalleycollege.ca.