MATH 10C-AHF, Mathematics 10C
6 credits, 6 hours lecture

Topics covered include linear SI metric and Imperial measurement and conversions; surface area and volume of 3D objects; right triangle trigonometry; apply the power laws with integral and rational exponents; perform all operations (addition, subtraction, multiplication, division) on polynomials; factor polynomials; identify, describe, interpret and analyze relations and functions; evaluate functional notation; determine domain and range; graph and define linear relations; solve linear systems of two relations.

Alberta Education Course Equivalency: Math 10C

Prerequisite: AFM 100 or equivalent or permission of the Program Chair

Instructor

Lisa Turner
Office: CC245
780-791-5606
Lisa.turner@keyano.ca

Office Hours

By appointment

Hours of Instruction

Monday 3:00 – 4:50 in CC212
Tuesday 3:00 – 4:50 in CC212
Thursday 3:00 – 4:50 in CC212

Required Resources

Pearson: Foundations and Precalculus Mathematics 10 by Garry Davis et al, ISBN 0-321-62684-2

Other Supplies: Scientific calculator or a graphing calculator, ruler, graph paper

Course Outcomes:

Upon successful completion of the course, the student shall be able to:

- develop and apply the primary trigonometric ratios to solve problems that involve right triangles
- demonstrate an understanding of powers with integral and rational exponents
- demonstrate an understanding of factors of whole numbers by determining the
    - Prime factors
    - Greatest common factor
    - Least common multiple
    - Square root
    - Cube root
- demonstrate an understanding of irrational numbers by

- o representing, identifying and simplifying irrational numbers
- o ordering irrational numbers
- demonstrate an understanding of the multiplication of polynomial expressions (limited to monomials, binomials and trinomials)
- demonstrate an understanding of common factors and trinomial factoring
- interpret and explain the relationships among data, graphs and situations
- demonstrate an understanding of relations and functions
- demonstrate an understanding of slope with respect to:
  - o rise and run
  - o line segments and lines
  - o rate of change
  - o parallel lines
  - o perpendicular lines
- describe and represent linear relations, using
  - o words
  - o ordered pairs
  - o table of values
  - o graphs
  - o equations
- represent a linear function, using functional notation
- determine the characteristics of the graphs of linear relations, including the:
  - o intercepts
  - o slope
  - o domain
  - o range
- relate linear relations expressed (in the following formats) to their graphs:
  - o slope-intercept form ($y=mx+b$)
  - o general form ($Ax+By+C=0$)
  - o slope-point form $(y-y_1=m(x-x_1))$
- determine the equation of a linear relation (given the information below) to solve problems
  - o a graph
  - o a point and the slope
  - o two points
  - o a point and the equation of a parallel or perpendicular line
- solve problems that involve systems of linear equations in two variables, graphically and algebraically.

Evaluation

Assignments	25%	
Weekly Quizzes	10%	
Midterm Exam	30%	Multiple Choice (MC) & word problems on Chp. 2, 3, 4
Final Exam	35%	MC on **ALL** chapters & word problems on Chp. 5, 6, 7

The minimum pre-requisite for progression is 1.7 or 60% (refer to grading system below).

Grading System

Descriptor	4.0 Scale	Percent
	4.0	96 – 100
Excellent	4.0	90 – 95
	3.7	85 – 89
	3.3	81 – 84
Good	3.0	77 – 80
	2.7	73 – 76
	2.3	69 – 72
Satisfactory	2.0	65 – 68
Minimum Prerequisite	1.7	60 – 64
Poor	1.3	55 – 59
Minimum Pass	1.0	50 – 54
Failure	0.0	0 – 49

Proposed Schedule

Unit #	Unit Topic	Approximate Time	Text References
1	Algebra and Numbers	5 weeks	Chapter 4: Roots and Powers Chapter 3: Factors and Products
2	Measurement	2 weeks	Chapter 2: Trigonometry
Midterm Exam – Chapters 2-4 Tentatively Scheduled for Thursday, October 27, 2022			
3	Relations and Functions	4 weeks	Chapter 5: Relations and Functions Chapter 6: Linear Functions
4	Systems of Equations	2 weeks	Chapter 7: Systems of Linear Equations
Final Exam – Multiple Choice on **ALL** Chapters and Word Problems on Chapters 5, 6, 7 **ONLY**. Scheduled Between December 8-19, 2022			

Please Note:

The date and time allotted to each topic are subject to change.

See Below for Calendar of Important Events. *Dates on the calendar below are tentative and subject to change; shaded areas indicate no Math 10C classes.*
Final exams are scheduled by the College. Do not book travel until end of the day December 19, 2022.

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	August 29 Orientation Day	30 Orientation Day	31 First Day of Fall 2022 Semester	September 1 First Day of Math 10C & Lesson 4.2	2
2	5 Labour Day – college closed	6 Lesson 4.3	7	8 Lesson 4.4	9
3	12 Lesson 4.5	13 Lesson 4.6	14	15 Lesson 3.1	16
4	19 Lesson 3.2	20 Lesson 3.3	21	22 Lesson 3.5	23
5	26 Lesson 3.6	27 Factoring Practice	28	29 Lesson 3.7	30 Truth & Reconciliation Day
6	October 3 Lesson 3.8	4 Factoring Practice	5	6 Pythagorean Theorem & Lesson 2.1	7
7	10 Thanksgiving Day – college closed	11 Lesson 2.2	12	13 Lesson 2.3	14
8	17 Lesson 2.4	18 Lesson 2.5	19	20 Lesson 2.6	21
9	24 Lesson 2.7	25 Midterm Review	26	27 Midterm Exam	28
10	31 Review Coordinate Geometry & Lesson 5.1	November 1 Lesson 5.2	2	3 Lesson 5.5	4
11	7 Lesson 5.6	8 Lesson 5.7	9 Reading Days – no classes	10 Reading Days – no classes	11 Remembrance Day – college closed
12	14 Lesson 6.1	15 Lesson 6.2	16	17 Lesson 6.4	18
13	21 Lesson 6.5	22 Lesson 6.6	23	24 Lesson 7.1	25
14	28 Lesson 7.2	29 Lesson 7.4	30	December 1 Lesson 7.5	2
15	5 Lesson 7.6	6 Last Day of Class and Final Exam Review	7	8 Final Exams	9 Final Exams
16	12 Final Exams	13 Final Exams	14 Final Exams	15 Final Exams	16 Final Exams
17	19 Final Exams	20	21 Final Grades Posted	22	23

Performance Requirements and Student Services

Student Responsibilities

As a student, it is your responsibility to contact the Office of the Registrar to complete the required forms, including the Withdraw Course or Program or a Change of Registration form. Please refer to the important dates listed in the Academic Schedule in the Keyano College credit calendar. The Keyano College credit calendar also has information about Student Rights and the Code of Conduct. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and the Code of Conduct Policies.

Student Attendance

Class attendance is helpful for two reasons: First, class attendance maximizes a student's learning experience. Second, attending class is an excellent way to keep informed of matters relating to the course administration (e.g., the timing of assignments and exams). Ultimately, you are responsible for your learning and performance in this course. It is the responsibility of each student to be prepared for all classes. Absent students are responsible for the material covered in those classes, and students must ensure they are ready for their next class, including completing any missed assignments and notes.

Academic Misconduct

Students are considered responsible adults and should adhere to the principles of intellectual integrity. Intellectual dishonesty takes many forms:

- Plagiarism or the submission of another person's work as their own,
- The use of unauthorized aids in assignments or examinations (cheating),
- Collusion or the unauthorized collaboration with others in preparing work,
- The deliberate misrepresentation of qualifications,
- The willful distortion of results or data,
- Substitution in an examination by another person,
- Submitting unchanged work for another assignment, and
- Breach of confidentiality.

The consequences for academic misconduct range from a verbal reprimand to expulsion from the College. More specific descriptions and details are found in the Student Rights and Code of Conduct section of the Keyano College credit calendar. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Code of Conduct Policies. To ensure your understanding of plagiarism, you may be required to complete the online Understanding Plagiarism tutorial and submit the certificate of completion.

Online Learning

Technology and internet connectivity will impact your online learning experience. You may be required to watch online videos, take online quizzes, or participate in live online classes. Live/virtual courses will be hosted in Microsoft Teams or Zoom. For all course delivery types, you will access your course resources on Keyano's learning management system: Moodle (iLearn). Login in using your Keyano username and password. Keyano College operates in a Windows-based environment and having access to the correct tools for online learning is essential. Here's a list of recommended system requirements.

Internet Speed

Minimum download and upload speeds of 10 Mbps. Recommended download speeds of 25 Mbps and upload speeds of 10 Mbps (if you are sharing your internet at home). You can check your internet speed with Speedtest by Ookla.

Computer System Requirements

Microsoft Windows	Apple (Mac)
Minimum Requirements:	**Minimum Requirements:**

1. Windows 10 Operating System or above
 	
2. 4GB of RAM
 	
3. 10GB available hard drive storage space
 	
   a. Install the Microsoft Office 365 suite (~3GB) *
 	
4. Microphone, webcam, and speakers (All modern laptops have these three accessories built-in.)
 	
5. Windows has built-in anti-virus/malware software. It is essential to install system updates to keep your device secured regularly.
 	
*[Microsoft Office 365](#) is free to Keyano students.
	1. Mac Operating System 10.14 (Monterey) or above
	
	2. 4GB of RAM
	
	3. 10GB available hard drive storage space
	
	   a. Install the Microsoft Office 365 suite (~3GB) *
	
	4. Microphone, webcam, and speakers (All modern laptops have these three accessories built-in.)
	
	5. Mac has built-in anti-virus/malware software. It is important to install system updates to keep your device secured regularly.
	
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Recommended Upgrades • 8GB of RAM • Regularly back up or synchronize your files, locally or with a cloud-based storage option. OneDrive is the cloud-based storage option free to students after the setup of KeyanoMail and Microsoft 365.	**Recommended Upgrades** • 8GB of RAM • Regularly back up or synchronize your files locally or with a cloud-based storage option. OneDrive is the cloud-based storage option free to students after the setup of KeyanoMail and Microsoft 365.
Tablets, iPads, and Chromebooks are **not** recommended: they may not be compatible with the testing lockdown browsers and Microsoft Office 365.	

Computer Software

Students have access to Microsoft Office 365 and Read&Write for free using Keyano credentials.

Recording of Lectures and Intellectual Property

Students may only record a lecture if explicit permission is provided by the instructor or Accessibility Services. Even if students have permission to record a lecture or lecture materials, students may not share, distribute, or publish any of the lectures or course materials; this includes any recordings, slides, instructor notes, etc., on any platform. Thus, no student is allowed to share, distribute, publish or sell course-related content without permission. It is important to recognize that the Canadian Copyright Act contains provisions for intellectual property. The [Academic Integrity Policy](#) provides additional information on Keyano College's expectations from students as members of the intellectual community.

ITS Helpdesk

If you have issues with your student account, you can contact the ITS Helpdesk by emailing its.helpdesk@keyano.ca or calling 780-791-4965.

COVID-19 We are subject to provincial, and municipal bylaws, and policies. These decisions may change pending further direction from the Alberta Chief Medical Officer, Alberta Health Services, and other provincial guidelines. To protect yourself and others, get immunized, wash your hands, wear a mask, keep your distance (2m/6 ft) and remain home when feeling unwell. For the most recent COVID-19 information, please refer to [albertahealthservices.ca/COVID](#).

Specialized Supports: The Student Services Department is committed to Keyano students and their academic success. There is a variety of student support available at Keyano. All student services are available during Keyano business hours: Monday to Friday, 8:30 a.m. to 4:30 p.m. The College is closed on statutory holidays. If you require support outside of regular business hours, please inform the support service team, and they will do their best to accommodate your needs.

Accessibility Services provides accommodations for students living with disabilities. Students with documented disabilities or who suspect a disability can meet with an Access Strategist to discuss their current learning barriers and possible accommodations. Students who have accessed accommodations in the past are encouraged to contact the department to request accommodations for the following semester. Please note that requesting accommodations is a process and requires time to arrange. Contact the department as soon as you know you may require accommodations. For accessibility supports and disability-based funding, please book an appointment by emailing us at: accessibility.services@keyano.ca.

Accessibility Services also provides individual and group learning strategy instruction for all students and technology training and support to enhance learning. You can meet with an Access Strategist to learn studying and test-taking strategies. In addition, you can schedule an appointment with the Assistive Technology Specialist to explore technology tools for learning. Book an appointment today by emailing: accessibility.services@keyano.ca

Wellness Services offers a caring, inclusive, and respectful environment where students can access free group and individual support to meet academic and life challenges. Mental Health Coordinators provide a safe and confidential environment for you to seek help with personal concerns. Our Wellness Navigator offers support with basic needs such as housing, financial and nutritional support, and outside referrals when needed. Wellness Services welcomes students to participate in group sessions that address topics including mindfulness and test anxiety throughout the academic year. Individual appointments can be made by emailing wellness.services@keyano.ca.

Library Services: provides students with research, information, and education technology supports as they engage in their studies. Library staff are available to help you online and in person throughout the semester. Librarians offer individual and small group appointments booked using the online Book A Librarian calendar. The Library also provides research and subject guides to help you with your studies. To view a subject or course-specific guide, check out the complete list of online Subject Guides. To start your research and access citation guides (APA, MLA, Chicago, or IEEE), visit the Research Help page. The Library's collections (including print and online materials) are searchable using OneSearch. The Library offers a Loanable Technology collection to support students accessing and using technology. For an up-to-date list of technology available for borrowing, visit the Library's Loanable Technology webpage. For a detailed list of library resources and services, go to www.keyano.ca/library. For all inquiries, please email askthelibrary@keyano.ca or chat with us online.

Academic Success Centre: The Academic Success Centre at Keyano College (CC-119) provides **free** academic support services to registered students, such as tutoring, writing support, facilitated study groups, workshops, and study space. Academic Content Specialists are available in Mathematics, Science, Trades, Power Engineering, Upgrading/College Prep, Human Services, English, Humanities, and more. Students are encouraged to visit the Academic Success Centre to discuss study strategies and academic concerns. For additional information, please email Academic.Success@keyano.ca.

Academic Success Coach: The Academic Success Coach is located in the Academic Success Centre and works with students to develop academic success plans, time management skills, study strategies, and homework plans. For additional information, please email Academic.Success@keyano.ca.