KEYANO COLLEGE

MATH 10C-A, 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 009 or permission of the Program Chair

Instructor

Lisa Turner
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Office Hours

Tuesday	10:00 – 10:50 (online)
Wednesday	10:00 – 10:50 (online)
Thursday	10:00 – 10:50 (online)

Hours of Instruction

Tuesday	8:00 – 9:50 (online – link for class found on Moodle page)
Wednesday	8:00 – 9:50 (online – link for class found on Moodle page)
Thursday	8:00 – 9:50 (online – link for class found on Moodle page)

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

- o   Least common multiple
- o   Square root
- o   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	20%
Attendance and Participation	10%
Weekly Quizzes	10%
Tests (3 in total)	30%
Final Exam (cumulative)	30%

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

A grade of C- (60%) is required for progression to the next level of math.

The minimum standard for passing this course is a grade of D (50%).

Proposed Schedule of Topics

Unit #	Unit Topic	Approximate Time	Text References
1	Measurement	2 weeks	Chapter 2: Trigonometry
2	Algebra and Numbers	4 weeks	Chapter 3: Factors and Products Chapter 4: Roots and Powers
3	Relations and Functions	4 weeks	Chapter 5: Relations and Functions Chapter 6: Linear Functions
4	Systems of Equations	3 weeks	Chapter 7: Systems of Linear Equations
Final Exam – All Chapters - Scheduled Between December 7-18, 2020			

Calendar of Important Events - *Dates on the following calendar are tentative; shaded areas indicate no Math 10C classes.*

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	August 21	September 1 **First Day of Math 10C** Introduction	2 Lesson 2.1/2.2	3 Lesson 2.4/2.5	4
2	7	8 Lesson 2.6	9 Lesson 2.7	10 Lesson 3.1/3.2	11
3	14	15 Lesson 3.3	16 Lesson 3.5	17 Lesson 3.6	18
4	21	22 Lesson 3.7	23 Lesson 3.8	24 Chapter 2& 3 Review	25
5	28	29 Test #1	30 Lesson 4.2/4.3	October 1 Lesson 4.4	2
6	5	6 Lesson 4.5	7 Lesson 4.6	8 Lesson 5.1	9
7	12 **Thanksgiving College Closed**	13 Lesson 5.2	14 Lesson 5.4	15 Lesson 5.5	16
8	19	20 Lesson 5.6	21 Chapter 4&5 Review	22 Test #2	23
9	26	27 Lesson 6.1	28 Lesson 6.2	29 Lesson 6.4	30
10	November 2	3 Lesson 6.5	4 Lesson 6.6	5 Lesson 7.1	6
11	9	10 Lesson 7.2	11 **Remembrance Day – College Closed**	12 **Reading Days – no classes**	13 **Reading Days – no classes**
12	16	17 7.1 & 7.2 Review	18 Lesson 7.4	19 Lesson 7.5	20
13	23	24 Lesson 7.6	25 Chapter 6 & 7 Review	26 Test #3	27
14	30	December 1 Final Exam Review	2 Final Exam Review	3 Final Exam Review & Last Day of Class	4
15	7 Final Exams	8 Final Exams	9 Final Exams	10 Final Exams	11 Final Exams
16	14 Final Exams	15 Final Exams	16 Final Exams	17 Final Exams	18 Final Exams

Please Note:
Date and time allotted to each topic is subject to change.
Final exams are scheduled by the College. Do <u>not</u> book travel until December 19, 2020

Performance Requirements

Student Responsibilities
It is your responsibility as a student to contact the Office of the Registrar to complete the forms for Withdrawal or Change of Registration, and any other forms. Please refer to the list of important dates as noted in the Academic Schedule in the Keyano College credit calendar. The Keyano College credit calendar also has information about Student Rights and Code of Conduct. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Code of Conduct Policies.

Student Attendance
Class attendance is useful for two reasons. First, class attendance maximizes a student's learning experience. Second, attending class is a good way to keep informed of matters relating to the administration of the course (e.g., the timing of assignments and exams). Ultimately, you are responsible for your own learning and performance in this course.

It is the responsibility of each student to be prepared for all classes. Students who miss classes are responsible for the material covered in those classes and for ensuring that they are prepared for the next class, including the completion of any assignments and notes that may be due.

Academic Misconduct
Students are considered to be responsible adults and should adhere to principles of intellectual integrity. Intellectual dishonesty may take many forms, such as:

- Plagiarism or the submission of another person's work as one's 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;
- Handing in the same unchanged work as submitted 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.

In order to ensure your understanding of the concept of plagiarism, you must successfully complete the online tutorial found on ilearn.keyano.ca. Thenprint the certificate, sign it, and show it to each of your instructors. Your course work may not be graded until you show this signed certificate.

Specialized Supports
The Student Services department is committed to Keyano students and their academic success. There are a variety of student supports available at Keyano College. Due to the continuing situation with the Covid-19 pandemic, the offered support services will be implemented differently this semester by being provided mostly virtually. In-person service can be requested as needed. All Alberta Health Services guidelines will be followed for in-person appointments—wear a mask, maintain two meters of physical distance, use hand sanitizer, and stay home if you are unwell.

All student services are available during Keyano business hours: Monday to Friday, 8h30-16h30. The Library has evening and weekend hours. Please check keyano.ca/library for current hours.

Accessibility Services: provides accommodations for students with disabilities. Students with documented disabilities, or who suspect a disability, can meet with a Learning Strategist to discuss

their current learning barriers and possible accommodations. Students who have accessed accommodations in the past are encouraged to contact us to request them for the semester. Please note that requesting accommodations is a process and requires time to arrange. Contact us as soon as you know you may require accommodations. For accessibility services supports and to book a virtual appointment, please contact accessibility.services@keyano.ca.

Accessibility Services also provides individual and group learning strategy instruction for all students, as well as technology training and supports to enhance learning. Meet with a Learning Strategist to learn studying and test-taking strategies for online classes. Schedule an appointment with the Assistive Technology Specialist to explore technology tools for learning. Book an appointment today by emailing accessibility.services@keyano.ca

Academic Success Coaching: offers you support and access to resources for your academic success to help you to find the Keys to your Success. The Academic Success Coach will work with you to develop an academic success plan, develop your study and time management skills, and connect you with the right resources here at Keyano. Academic.success@keyano.ca is the best way to access resources during virtual service delivery.

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 offer a safe and confidential environment to seek help with personal concerns. All individual appointments will continue virtually.

Wellness Services welcomes students to participate in any of the virtual group sessions offered throughout the academic year addressing topics including mindfulness and test anxiety.

Individual virtual appointments can be made by emailing wellness.services@keyano.ca.

Library Services: provides students with research and information supports as they engage in their studies. Library staff are available to support you both virtually and in person during the fall semester. For library service supports and inquiries, please email askthelibrary@keyano.ca.

Individual support with the Information Librarian will be provided virtually. Appointments can be requested by email or by placing a Book a Librarian request using the online form found here.

Research and Subject Guides are helpful resources when conducting research or addressing your information needs. To view a subject or course specific guide, use the following Subject Guides link

To access additional research resources, including Citation Guides (APA, MLA, Chicago, or IEEE), go to the Research Help Library page.

Skill Centre: provides academic support services to students registered in credit programs at Keyano College in the form of tutoring, writing support groups, facilitated study groups, workshops and study space. Tutoring services are **free** to Keyano students. Tutoring is available for Math, Writing, English, and Science subject areas.

While most courses are being offered online, the Skill Center will be offering mostly virtual tutoring services and in-person sessions as requested. Please email Skill.centre@keyano.ca to get in contact with our tutoring staff.

For the most up to date information on how to book a tutoring session, please view the Keyano Skill Centre homepage.

E-Learning
Technology and internet will impact your online learning experience. It's important that you are able to watch an online video and other course materials, take online quizzes, and participant in a live class with your instructor and other students.

Keyano College operates in a Windows based environment and having the correct tools for online learning is important. Here's a list of recommended system requirements for Fall 2020.

Internet Speed
Minimum Internet speeds of 5 Mbps.
Recommended Internet speeds of 25 Mbps (especially if you are sharing your internet at home).
Check your internet speed with Fast.com.

System requirements:

Microsoft Windows	Apple
Minimum Requirements: A Windows 10 **computer/laptop** · Minimum 4GB of RAM. · 10GB+ available hard drive storage. · Enough available hard drive space to install the Microsoft Office suite (approximately 3GB). Microsoft Office software is free to all Keyano students and employees. · Microphone, webcam and speakers. A headset with a microphone is recommended. · System updates must be regularly installed. · Anti-Virus / Anti-Malware software	**Minimum Requirements:** A Macintosh (V10.14 and above) **computer/laptop** · Minimum 4GB of RAM. · 10GB+ available hard drive storage. · Enough available hard drive space to install the Microsoft Office suite (approximately 3GB). Microsoft Office software is free to all Keyano students and employees. · Microphone, webcam and speakers. A headset with a microphone is recommended. · System updates must be regularly installed. · Anti-Virus / Anti-Malware software.
Recommended Requirements · 8GB of RAM · A method of backing up/synchronizing to local or cloud-based storage such as OneDrive is highly recommended. This is included if you complete the setup of KeyanoMail and download MS Office using your Keyano email for free.	**Recommended Requirements** · 8GB of RAM · A method of backing up/synchronizing to local or cloud-based storage such as OneDrive is highly recommended. This is included if you complete the setup of KeyanoMail and download MS Office using your Keyano email for free.
Chromebooks are **not** recommended as they are not compatible with testing lockdown browsers. A Microsoft Surface or iPad or iPad Pro may be possible alternatives in some program areas.	

Computer Software
Students will be able to get access to Microsoft Office 365 for Free using Keyano Credentials by clicking here.

Recording of lectures and Intellectual Property
Students may only record a lecture if explicit permission is provided by the instructor or by Accessibility Services. Even if students have permission to record a lecture or lecture materials, students may not publish any of the lectures or lecture materials, this includes any recordings, slides, instructor notes, etc. on any platform. Thus no student is allowed to publish or sell instructor notes without formal written permission. It is important to recognize that the Canadian Copyright Act contains provisions for intellectual property.

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