MATH 10-3
Mathematics 10-3
5 credits, 16 weeks, 5 hours lecture
Math 10-3 is a part of the new Alberta Program of Studies. The "-3" course sequence is designed to provide students with the mathematical understandings and critical-thinking skills identified for entry into the majority of trades and for direct entry into the workforce. Topics of study will include finance, algebra, geometry, measurement, and number. This course will be delivered through projects, activities, and problems set in real world contexts, enabling students to make connections between high school math and the workplace.

Alberta Education Course Equivalency: Math 10-3
Prerequisite: AFM 009 or permission of the program chair

Instructor Information

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Gillian Whalen</th>
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</thead>
<tbody>
<tr>
<td>Office Phone</td>
<td>780-559-2434</td>
</tr>
<tr>
<td>Cell Phone</td>
<td>587-646-4358</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:Gillian.Whalen@keyano.ca">Gillian.Whalen@keyano.ca</a></td>
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</tbody>
</table>

Class Time

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Monday</td>
<td>2:00 PM – 2:50 PM</td>
</tr>
<tr>
<td>Wednesday</td>
<td>1:00 AM – 2:50 AM</td>
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<tr>
<td>Thursday</td>
<td>10:00 AM – 10:50 AM</td>
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<tr>
<td>Friday</td>
<td>11:00 AM – 11:50 AM</td>
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Office Hours

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Monday</td>
<td>1:00 PM to 2:00 PM</td>
</tr>
<tr>
<td>Tuesday</td>
<td>11:00 AM to 12:00 PM</td>
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<tr>
<td>Wednesday</td>
<td>11:00 AM to 12:00 PM</td>
</tr>
<tr>
<td>Thursday</td>
<td>3:00 PM to 4:00 PM</td>
</tr>
<tr>
<td>Friday</td>
<td>10:00 AM to 11:00 AM</td>
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Course Equivalency

Alberta Education course equivalency: Math 10-3

Required/Recommended Resources

Text: Pacific Press MathWorks 10 Textbook and Workbook
Scientific calculator or a graphing calculator
Ruler, Algebra Tiles, graph paper, binder, ruled paper, pencils, pen, eraser, and scissors.

General Math Program Outcomes

Students will

✓ Develop spatial sense and proportional reasoning
✓ Develop algebraic reasoning and number sense
✓ Develop algebraic and graphical reasoning through the study of relations

Course Outcomes

Upon successful completion of Math 10-3, students will be able to:

Measurements

➢ Demonstrate an understanding of the Système International (SI) by:
  • describing the relationships of the units for length, area, volume, capacity, mass and temperature
  • applying strategies to co

➢ Describe the relationships of the units for length, area, volume, capacity, mass and temperature

➢ Compare the American and British imperial units for capacity.

➢ Apply strategies to convert imperial units to SI units and convert SI units to imperial units.

➢ Solve and verify problems that involve SI and imperial linear measurements, including decimal and fractional measurements.

➢ Solve problems that involve SI and imperial area measurements of regular, composite and irregular 2-D shapes and 3-D objects, including decimal and fractional measurements, and verify the solutions.

➢ Analyze puzzles and games that involve spatial reasoning, using problem-solving strategies.

➢ Demonstrate an understanding of the Pythagorean theorem by:
  • identifying situations that involve right triangles
  • verifying the formula
  • applying the formula
  • solving problems.
Demonstrate an understanding of similarity of convex polygons, including regular and irregular polygons.

Demonstrate an understanding of primary trigonometric ratios (sine, cosine, tangent) by:
- applying similarity to right triangles
- generalizing patterns from similar right triangles
- applying the primary trigonometric ratios
- solving problems

Solve problems that involve parallel, perpendicular and transversal lines, and pairs of angles formed between them.

Demonstrate an understanding of angles, including acute, right, obtuse, straight and reflex, by:
- drawing
- replicating and constructing
- bisecting
- solving problems.

Solve problems that involve unit pricing and currency exchange, using proportional reasoning.

Demonstrate an understanding of income, including:
- wages
- salary
- contracts
- commissions
- piecework
to calculate gross pay and net pay.

Solve problems that require the manipulation and application of formulas related to:
- perimeter
- area
- the Pythagorean theorem
- primary trigonometric ratios
- income.

**Evaluation:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Tests</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Total Grade</strong></td>
<td><strong>100%</strong></td>
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</tbody>
</table>
Proposed Topics:

Chapter 1: Unit Pricing and Currency
  1.1. Proportional Reasoning
  1.2. Unit Price
  1.3. Setting Price
  1.4. On Sale
  1.5. Currency Exchange

Chapter 2: Earning an Income
  2.1. Wages and Salaries
  2.2. Alternate Ways to Earn Money
  2.3. Additional Earning
  2.4. Deductions and Net Pay

Chapter 3: Length, Area and Volume
  3.1. Systems of Measurements
  3.2. Converting Measurements
  3.3. Surface Area
  3.4. Volume

Chapter 4: Mass, Temperature, and Volume
  4.1. Temperature Conversion
  4.2. Mass in the Imperial System
  4.3. Mass in the Systeme International
  4.4. Making Conversion

Chapter 5: Angle and Parallel Lines
  5.1. Measuring, Drawing, and Estimating Angles
  5.2. Angles Bisectors and Perpendicular Lines
  5.3. Non-Parallel Lines and Transversal
  5.4. Parallel Lines and Transversal

Chapter 6: Similarity Of Figures
  6.1. Similar Polygons
  6.2. Determining if Two polygons and Similar
6.3. Drawing similar Polygons
6.4. Similar Triangles

Chapter 7: Trigonometry of Right Triangles
7.1. The Pythagorean Theorem
7.2. The Sine Ratio
7.3. The Cosine Ratio
7.4. The Tangent Ratio
7.5. Finding Angles and Solving Right Triangles

Notes of Evaluation
1. Your assignments should be scanned as a pdf file and sent in to your instructor.
2. All tests must be written on the day stated.
3. You must write the final exam during the final exam period. If you are unable to write on time you must do the following:
   a. Notify me (instructor) on or before the day the test is scheduled.
   b. Produce a medical certificate indicating a serious illness.

Words of Wisdom
1. Contact me if you have any questions or if you need help. I can mainly be reached by my cell phone or by email. I am also willing to help students both during my office hours and arranged appointments.
2. Do all your assignments, projects, review, homework and practice sheets regularly.
3. Stick to the schedule as much as possible. This will ensure you complete all the required work by the end of the course.
4. Keyano College Grading System (from Credit Calendar)

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>4.0 Grade Scale</th>
<th>Percentage Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>4.0</td>
<td>96% - 100%</td>
</tr>
<tr>
<td></td>
<td>4.0</td>
<td>90% - 95%</td>
</tr>
<tr>
<td></td>
<td>3.7</td>
<td>85% - 89%</td>
</tr>
<tr>
<td>Good</td>
<td>3.3</td>
<td>81% - 84%</td>
</tr>
<tr>
<td></td>
<td>3.0</td>
<td>77% - 80%</td>
</tr>
<tr>
<td></td>
<td>2.7</td>
<td>73% - 76%</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>2.3</td>
<td>69% - 72%</td>
</tr>
<tr>
<td></td>
<td>2.0</td>
<td>65% - 68%</td>
</tr>
<tr>
<td>Minimum Prerequisite</td>
<td>1.7</td>
<td>60% - 64%</td>
</tr>
<tr>
<td>Poor</td>
<td>1.3</td>
<td>55% - 59%</td>
</tr>
<tr>
<td>Minimum Pass</td>
<td>1.0</td>
<td>50% - 54%</td>
</tr>
<tr>
<td>Failure</td>
<td>0.0</td>
<td>0% - 49%</td>
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## Important Dates to Note

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Wednesday, September 4, 2013</td>
<td>First day of classes</td>
</tr>
<tr>
<td>Tuesday, September 10, 2013</td>
<td>- Last day to add course(s) for academic programs</td>
</tr>
<tr>
<td></td>
<td>- Fall semester fees due</td>
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<tr>
<td>Friday, October 11, 2013</td>
<td>- Last day to drop course(s) for academic programs</td>
</tr>
<tr>
<td>Friday, February 15, 2013</td>
<td>- Last day to withdraw from course(s) with 50% refund of tuition fees</td>
</tr>
<tr>
<td>Monday, October 14, 2013</td>
<td>- Thanksgiving (College closed)</td>
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<tr>
<td><strong>Wednesday, October 25, 2013</strong></td>
<td>- Last day to withdraw from course(s) without academic penalty</td>
</tr>
<tr>
<td>Monday, November 11, 2013</td>
<td>- Remembrance Day (College closed)</td>
</tr>
<tr>
<td>Thursday, December 12, 2013</td>
<td>- Last day of classes for Academic Upgrading</td>
</tr>
<tr>
<td><strong>December 13-18, 2013</strong></td>
<td>- Final Exams for Academic Upgrading</td>
</tr>
<tr>
<td>December 20, 2013</td>
<td>- End of Fall semester for academic programs (Final Grades due to Registrar by 4:30 PM)</td>
</tr>
<tr>
<td>December 25 – January 1 2013/14</td>
<td>- College closed for Christmas Break and New Year’s Day</td>
</tr>
<tr>
<td>Monday, January 6, 2014</td>
<td>- Winter semester begins for academic programs</td>
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Academic Regulations

Use this link to view Keyano College's Academic Regulations:
http://www.keyano.ca/Media/Collections/Calendars/Keyano.Calendar1011-02-academicregulations.pdf

Academic Schedule

Scroll down to page 9 of this document to review the College academic schedule: http://www.keyano.ca/Media/Collections/Calendars/Keyano.Calendar1011-01-introduction.pdf

Learner Assistance Program (LAP)

If you have been diagnosed with a Learning Disability in the past, or you feel that you would benefit from some assistance from a Disabilities Counsellor, please call our office 780-792-5608 to book an appointment. Services and accommodations are intended to assist you in your course, while maintaining the academic standards of Keyano College. We can be of assistance to you in disclosing your disability to your instructor, receiving accommodations, and your overall success at Keyano College.

Office of the Registrar

Address: 8115 Franklin Avenue
T9H 2H7
Fort McMurray

Email: registrar@keyano.ca
Website: www.keyano.ca
Phone: (780) 791-4801
Fax: (780) 791-4952

Keyano College Main Switchboard Toll free: 1-800-251-1408

*It is your responsibility to contact the Office of the Registrar to complete the forms for withdrawal or change of registration, and any other required forms. Please refer to the list of important dates noted below.
Authorizations

This course outline has been reviewed and approved by the Program Chairperson.

Gillian Whalen (Instructor)

Janet Lowndes (Chair)

Guy Harmer (Dean)

Course Outline Effective Date: August 29, 2013