Math 20-3 Section G

Instructor: Melodee Helgason

Phone: (780) 334.2559

Email: melodee.helgason@keyano.ca

Math 20-3 Class Schedule

Monday 10:00 – 11:00 and 12:00 – 1:00
Wednesday 1:00 – 3:00
Thursday 10:00 – 11:00

Office Hours in Room

Monday and Thursday 11:00 – 12:00 and 3:30 – 4:00
Tuesday and Wednesday 12:00 – 1:00
MATH 20-3
Mathematics 20-3

5 credits, 16 weeks, 6 hours lecture
Math 20-3 is designed to provide with the mathematical understandings and critical-thinking skills identifies for entry into the work force. Topics include algebra, geometry, Measurement, number, statistics and probability.

Prerequisites: Math 10C or Math 10-3 or permission of the Program Chair.
Alberta Education course equivalency: Math 20-3

Required Resources:

Required Text: Pacific Press MathWorks 11 Workbook
- Scientific calculator that has the sine (sin), cosine (cos), and tangent (tan) buttons on it.
- Geometry Set/Straight edge
- Binder, ruled paper, pencils, pen, eraser
(Required text & resources are available in Keyano College)

Evaluation:

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests</td>
<td>40%</td>
</tr>
<tr>
<td>Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Unit Projects</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Total Grade</td>
<td>100%</td>
</tr>
</tbody>
</table>
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>
</tr>
</tbody>
</table>

Goals:

The main goals are to prepare student to use mathematics confidently to solve problems to communicate and reason mathematically, to appreciate and value mathematics, and to become mathematically literate adults, using mathematics to contribute to society.

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 20-3, students will be able to:

- Solve problems that involve SI and imperial units in surface area measurements and verify the solutions.
- Solve problems that involve SI and imperial units in volume and capacity measurements.
- Solve problems that involve two and three right triangles.
- Solve problems that involve scale.
- Model and draw 3-D objects and their views.
- Draw and describe exploded views, component parts and scale diagrams of simple 3-D objects.
- Analyze puzzles and games that involve numerical reasoning, using problem-solving strategies.
- Solve problems that involve personal budgets.
- Solve problems that involve personal budgets.
- Demonstrate an understanding of financial institution services used to access and manage finances.
- Demonstrate an understanding of credit options, including credit cards and loans.
- Solve problems that require the manipulation and application of formulas related to volume, capacity, surface area, slope and rate of change.
- Demonstrate an understanding of slope:
  - as rise over run
  - as rate of change
  - by solving problems.
- Solve problems by applying proportional reasoning and unit analysis.
- Solve problems that involve creating and interpreting graphs, including:
  - bar graphs
  - histograms
  - line graphs
  - circle graphs.
Proposed Topics:

Chapter 1: Slope and Rate of Change
  1.1. Rise Over Run
  1.2. Grade, Angle of Elevation, and Distance
  1.3. Rate of Change

Chapter 2: Graphical Representation
  2.1. Broken Line Graph
  2.2. Bar Graph
  2.3. Histogram
  2.4. Circle Graph

Chapter 3: Surface Area, Volume, and Capacity
  3.1 Surface Area of Prisms
  3.2 Surface Area of Pyramids, Cylinders, Spheres, and Cones
  3.3 Volume and Capacity of Prism and Cylinders
  3.4 Volume and Capacity of Spheres and Cones, and Pyramids

Chapter 4: Trigonometry of Right Triangles
  4.1 Solving for Angles, Lengths and Distances
  4.2 Solving complex Problems in the Real World

Chapter 5: Scale Representations
  5.1. Scale Drawing and Models
  5.2. Two – Dimensional Representations
  5.3. Three- Dimensional Representations

Chapter 6: Financial Services
  6.1 Choosing an Account
  6.2 Simple and Compound Interest
  6.3 Credit Cards and Store Promotions
  6.4 Personal Loans, Lines of Credit, and Overdraft
Chapter 7: Personal Budgets

7.1. Preparing to Make a Budget
7.2. The Budgeting Process
7.3. Analyzing a Budget

Additional Information:

Practice:
- You will receive daily practice exercises, either in the textbook or as handouts. Answers are provided, thus you should check your own progress. If you choose not to do the entire exercise, pick questions from throughout the practice since question difficulty levels vary. For maximum mastery of the material, students should be prepared to spend between one and two hours working on problems outside of class for every hour in class.

Unit Projects & Assignments:

Unit Projects & assignments, to be handed in for marks, will be assigned a DUE DATE on the first page. (Expect to receive at least one major assignment per chapter). The project will be due near the end of the unit. Plan your time wisely to ensure completion of the unit project.
- Projects & assignments are considered late if handed in after the due date. “Late” assignments may be accepted if discussed with the instructor; however, a 10% penalty (per day late) may be applied.
- Marks for Projects and/or assignments missed, for a legitimate reason may be deferred. However, you must discuss the reasons with the instructor! Otherwise, missed Projects & assignments will receive a grade of 0.
- Only under exceptional circumstances will late Projects & assignments be accepted after marked Projects & assignments have been returned to students.
- Although four unit projects will be assigned, only the top 3 unit project marks will be recorded. The attached rubric will be used by both the student and the instructor to grade (by consensus) the unit projects.
- Assignment answer keys will be available on Moodle, after marked assignments are handed back.
- Technological issues are not considered valid grounds for late Projects & assignments.

Tests:
The unit test will be scheduled to be completed after marked assignments have been returned to students. Thus, this means that the class will proceed with the next chapter prior to the unit test being written.

Tests must be written when scheduled. Make up tests will not be given and you will receive a grade of zero unless:
- the instructor has been notified on or before the day the test is scheduled
- a medical certificate is submitted
- exceptional circumstances beyond the student’s control arise.
  - Marks for test(s) missed, for a legitimate reason may be deferred to the final exam (upon request by the student and agreement of the instructor); however, you must discuss the reasons with the instructor!
  - Under excusable circumstances, a student may complete a missed test in the SKILL Centre.
- Each student is allowed to have one small recipe-card size “cheat sheet” present during a test or an 8.5” x 11” “cheat sheet” present during the final exam. The “cheat sheet” must be handed in with the test or final exam.
- The final exam will be cumulative (covers the material from the entire semester).

Attendance:
Regular, punctual attendance is necessary for success at Keyano College and on the job after graduation. Students are responsible for attending all learning activities in their courses on a regular and punctual basis. Excessive or inexcusable absences can result in poor or failing grades, loss or reduction of sponsor allowances, and/or probation or suspension.

Please notify your instructor of absences via email or voice mail (preferably in advance of the absence); if your absence will be for more than one class day, please communicate the extended absence to your instructor. It is the student’s responsibility to seek out missed assignments/tasks that were assigned during his/her absence in a timely manner. Your instructor encourages you to make use of assigned office hours for this purpose.

Medical documentation (i.e. doctor’s note, hospital bracelet, medical certificate) will be required for those students who have missed major assignments, tests, and activities and wish to be offered the opportunity to complete a makeup assignment/test.

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 Misconduct:
Taking the words or ideas of another person and stating them as your own is plagiarism. When it is necessary to borrow ideas from others, you must give credit to the lender. You may never use another student’s work as your own. Assigned work or tests showing evidence of copying or plagiarism will receive a mark of zero, the student will be given a verbal warning and notation will be placed on the student’s file. Penalties for further offences may include dismissal from the course or college. Please ensure you submit your own original work and not the work of a tutor, peer, or other person (including an unknown person / website / online material) for assigned work.

Student Rights and Responsibilities:
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.

Penalties for academic offences may range from a verbal reprimand to dismissal from the College, and in certain circumstances may involve legal action.

- By virtue of membership in the College’s academic community, students accept a responsibility to understand and abide by the Academic Regulations stated in the Keyano College course calendar.
- Student Responsibilities: Students must “refrain from unduly disturbing, disrupting or otherwise interfering” (Keyano College Credit Calendar) with the work or other activities of fellow students or staff.
- See also: Student Rights & Responsibilities (Keyano College Credit Calendar 2011-2012, pages 36-40).

Specialized Supports & Duty to Accommodate

Learner Assistance Program (LAP):
If you have a documented disability or you think that you would benefit from some assistance from a Disabilities Counsellor, please call or visit the Disability Supports Office 780-792-5608 to book an appointment (across from the library). Services and accommodations are intended to assist you in your program of study, while maintaining the academic standards of Keyano College. We can be of assistance to you in disclosing your disability to your instructor, providing accommodations, and supporting your overall success at Keyano College.
Specialized Supports and Duty to Accommodate:
Specialized Support and Duty to Accommodate are aligned with the office of Disability Support Services: Learner Assistance Program (LAP) guided by federal and provincial human rights legislation, and defined by a number of Keyano College policies. Keyano College is obligated by legislation to provide disability-related accommodations to students with identified disabilities to the point of undue hardship.

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](http://www.keyano.ca/Media/Collections/Calendars/Keyano.Calendar1011-01-introduction.pdf)
## Important Dates to note:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>September, 2(^{nd})</td>
<td>College closed – Labour day</td>
</tr>
<tr>
<td>September, 3(^{rd})</td>
<td>College Orientation Day</td>
</tr>
<tr>
<td>September, 4(^{th})</td>
<td>Fall Semester begins</td>
</tr>
<tr>
<td>September, 10(^{th})</td>
<td>Last day to add for academic programs</td>
</tr>
<tr>
<td>September, 11(^{th})</td>
<td>Fall Semester Fee Due</td>
</tr>
<tr>
<td>September, 17(^{th})</td>
<td>Last day to drop for academic programs.</td>
</tr>
<tr>
<td>October, 11(^{th})</td>
<td>Last day to withdraw with a 50% refund.</td>
</tr>
<tr>
<td>October, 14(^{th})</td>
<td>College closed - Thanksgiving</td>
</tr>
<tr>
<td>November, 11(^{th})</td>
<td>No Classes – Remembrance Day</td>
</tr>
<tr>
<td>December, 12(^{th})</td>
<td>Last day of classes for Academic Upgrading and Childhood Studies.</td>
</tr>
<tr>
<td>December, 20(^{th})</td>
<td>End of Fall Semester</td>
</tr>
</tbody>
</table>

## COLLEGE HOLIDAYS

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, September 2(^{nd})</td>
<td>College closed – Labour day</td>
</tr>
<tr>
<td>Monday, October, 14(^{th})</td>
<td>College closed – Thanksgiving</td>
</tr>
<tr>
<td>Monday, November, 11(^{th})</td>
<td>No classes – Remembrance Day</td>
</tr>
</tbody>
</table>
Please Note: 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 above.

Keyano College
Office of the Registrar
8115 Franklin Avenue
Fort McMurray, AB
T9H 2H7
Tel: (780) 791-4801
Fax: (780) 791-4952
Keyano College Main Switchboard Toll Free: 1-800-251-1408
Email: registrar@keyano.ca
www.keyano.ca
Authorization: Math 20-3    Section G    Fall 2013
This course outline has been authorized by the following individuals:

Melodee Helgason__________________________________________________________
(Instructor)

Janet Lowndes____________________________________________________________
(Chair)

Guy Harmer_________________________________________________________________
(Dean)

Course Outline Effective Date: September 4, 2013