Coquitlam College
Senior Secondary

Course: Workplace Mathematics 10
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Level: High School
Semester: Fall 2025
Time: 12:20 PM – 1:52 PM

Course Description: Workplace Mathematics 10 is designed for students who want to strengthen their numeracy skills for real-world applications in everyday life and future workplaces. The course emphasizes practical problem-solving, allowing students to see how mathematics is applied in common situations such as personal finance, measurement, data analysis, and workplace tasks. Students will learn to interpret and create graphs and charts to represent data clearly, convert between metric and imperial units in contexts such as cooking, building, and travel, calculate surface area and volume for objects used in trades, packaging, or design, apply trigonometry to real-life right-angle measurement problems such as heights, ramps, and ladders, analyze data using mean, median, and probability to support decision-making, and develop financial literacy skills, including understanding income, deductions, and budgeting.

Big Ideas: By the end of this course, students will understand:

- Mathematics helps us understand and solve problems in everyday life and the workplace.
- Financial literacy allows us to make informed decisions about personal money management and future planning.
- Data and probability can be used to analyze situations, recognize patterns, and make predictions.
- Geometry and measurement are essential for designing, building, and working safely in trades and daily tasks.
- Mathematical thinking develops our ability to communicate, reason, and make responsible choices in personal, community, and workplace contexts.

Core Competencies:

- Clearly explain mathematical thinking and problem-solving steps in everyday workplace contexts.
- Interpret and present information using tables, graphs, and charts.
- Use appropriate mathematical language to describe patterns, relationships, and data.
- Collaborate with peers to solve workplace-related math problems and share strategies.

Thinking

- Apply critical and creative thinking to solve real-world problems involving measurement, finance, probability, and trigonometry.
- Evaluate different problem-solving strategies and choose the most efficient method.
- Connect mathematical concepts to personal experiences and workplace applications.
- Analyze data to make informed decisions in practical contexts.

Personal and Social Responsibility

- Demonstrate responsibility by applying math skills to manage personal finances, such as budgeting and understanding income and deductions.
- Recognize how math skills contribute to workplace safety, accuracy, and efficiency.
- Show perseverance when working through challenging problems and learning new skills.

- Respect diverse perspectives and approaches to solving problems when working in group settings.

Curricular Competencies:
Students are expected to be able to do the following:
Reasoning and Analyzing

- Apply logic and critical thinking to solve everyday and workplace mathematical problems.
- Estimate reasonably to support decision-making in financial, measurement, and data contexts.
- Use mental math, technology, and other strategies to solve problems efficiently.

Understanding and Solving

- Develop and apply multiple strategies to solve problems in areas such as measurement, geometry, finance, and probability.
- Connect mathematical concepts to real-life contexts, including trades, personal finance, and daily decision-making.

Communicating and Representing

- Clearly explain and justify mathematical thinking in oral, written, visual, and digital forms.
- Interpret and create tables, graphs, and charts to represent data accurately.
- Use appropriate mathematical vocabulary, symbols, and units when communicating solutions.

Connecting and Reflecting

- Reflect on personal strategies and approaches to solving mathematical problems.
- Connect mathematics to personal experiences, workplace applications, and community contexts.
- Recognize the role of mathematics in supporting financial responsibility, workplace safety, and lifelong learning.

Content Units & Suggested Timeline

Unit	Topics Covered	Suggested Duration
1. Graphs	Creating, interpreting, critiquing line, bar, circle graphs, histograms, pictographs, infographics	2 weeks
2. Unit Conversions	Converting between metric and imperial systems, measurement fluency	2 weeks
3. Surface Area & Volume	Measuring 3D objects, formulas for prisms, cylinders, composite shapes	2 weeks
4. Trigonometry	Primary right-angle trigonometric ratios (sine, cosine, tangent)	2 weeks

5. Central Tendency	Mean, median, mode, range, identifying outliers	1 week
6. Probability	Experimental probability via games, simulations, links to theoretical probability	2 weeks
7. Financial Literacy	Types of income, gross/net pay, income tax, deductions	2 weeks

Resources:
Scientific calculator (non-graphing, e.g., Casio fx-300 or TI-30 series), Geometry set (ruler, protractor, compass, set square), Grid paper / graph paper, Measuring tools (tape measure, meter stick, rulers), 3D solids

With respects to the First People's Principles of Learning, students may be alternatively assessed in ways that people can display knowledge and subject mastery. The alternative assessment can be storytelling, art or other expressions of self, knowing and learning.

- Learning involves recognizing the consequences of one's actions.
- Learning recognizes the role of indigenous knowledge.
- Learning is embedded in memory, history, and story.

Assessment Scheme:
Quizzes: 15%
Midterm Exam: 25%
Final Exam: 25%
Project: 10%
Labs: 15%
Presentation: 5%
Participation: 5%

Expectations:

- Be sure to check MyCC regularly for updates and announcements related to the course.
- Actively participate in class discussions, group work, and lab activities.
- Complete all assignments and homework on time.
- Always exhibit responsible, cooperative, and respectable behavior
- Avoid plagiarism and maintain academic honesty in all assignments.