


Course Outline

School:	Hospitality Tourism & Culinary
Department:	Hospitality and Tourism
Course Title:	Math for Hospitality
Course Code:	HOSP 112
Course Hours/Credits:	42
Prerequisites:	N/A
Co-requisites:	N/A
Eligible for Prior Learning, Assessment and Recognition:	Yes
Originated by:	Diarmuid O'Connor, Tobi Mark
Creation Date:	Fall 2020
Revision Date:	Winter 2025
Current Semester:	Winter 2025
Approved by:	

S. Michelle Caine, Associate Dean/Dean,
Hospitality Tourism & Culinary

Students are expected to review and understand all areas of the course outline.

Retain this course outline for future transfer credit applications. A fee may be charged for additional copies.

This course outline is available in alternative formats upon request.

Acknowledgement of Traditional Lands

Centennial is proud to be a part of a rich history of education in this province and in this city. We acknowledge that we are on the treaty lands and territory of the Mississaugas of the Credit First Nation and pay tribute to their legacy and the legacy of all First Peoples of Canada, as we strengthen ties with the communities we serve and build the future through learning and through our graduates. Today the traditional meeting place of Toronto is still home to many Indigenous People from across Turtle Island and we are grateful to have the opportunity to work in the communities that have grown in the treaty lands of the Mississaugas. We acknowledge that we are all treaty people and accept our responsibility to honor all our relations.

Course Description

This course has been designed to equip you with the essential numerical skills required within the hospitality industry. It has been divided into three sections: Basic Math, Business Math and Hospitality Math.

In the first section of this course, Math Basics, you will learn basic mathematical skills that will provide you with a strong foundation for what you will learn in the later units in the course. This will include place value, decimals, fractions percentages, algebra and word problems.

In the second section of this course, Business Math, you will learn calculations needed within the business world. This will include merchandizing, trade discounts, payment terms, markups/markdowns, and simple and compound interest.

In the final part of this course, Hospitality Math, you will learn calculations that are used in various hospitality industries. This will include food and beverage costs calculations, special events calculations, occupancy rates, labour calculations, and the income statement.

Students enrolled in this course fully understand that the course is offered in an asynchronous format, fully online. Although asynchronous, there may be times that the professor provides or requests a synchronous meeting. Professors will provide ample notice prior to required synchronous sessions. Synchronous sessions are recorded for the purpose of the course and all course participants. Please ensure you turn off your microphone and camera if you do not wish to be recorded during synchronous sessions.

As the college is situated in Toronto, Ontario, Canada, we operate under the Eastern Standard Time Zone (EST). All due dates and timelines are based upon EST. Please adjust your clocks and calendars to ensure timely submission of work.

External Standard Information (ESI)

N/A

Program Outcomes

Successful completion of this and other courses in the program culminates in the achievement of the Vocational Learning Outcomes (program outcomes) set by the Ministry of Colleges and Universities in the

Program Standard. The VLOs express the learning a student must reliably demonstrate before graduation. To ensure a meaningful learning experience and to better understand how this course and program prepare graduates for success, students are encouraged to review the Program Standard by visiting <http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/>. For apprenticeship-based programs, visit <https://www.skilledtradesontario.ca/about-trades/trades-information/>.

Course Learning Outcomes

The student will reliably demonstrate the ability to:

1. Solve basic math equations and word problems without a calculator.
2. Calculate conversion between fractions, decimals and percents.
3. Solve basic algebra equations.
4. Apply business and revenue models as well as basic accounting, budgeting, financial and administration skills to support the effective management and operation of a variety of organizations delivering hospitality services and products
5. Solve simple interest calculations.
6. Calculate costs with trade discounts.
7. Solve integrated problems involving discounts, markup, and markdown.
8. Calculate the perimeter and area of rooms to ensure adequate space for events
9. Solve calculations for determining HST and taxes of events for redemption of payment
10. Calculate cost of full-time and part-time staff compensation.
11. Calculate the costs of government taxes, over-time and vacation pay.
12. Interpret how to apply basic cost control, revenue management and principles of financial planning, analysis and control to assist in making decisions at an operational level and to contribute to the achievement of financial plans of hospitality enterprise.

Essential Employability Skills (EES)

The student will reliably demonstrate the ability to*:

3. Execute mathematical operations accurately.
4. Apply a systematic approach to solve problems.
5. Use a variety of thinking skills to anticipate and solve problems.
6. Locate, select, organize, and document information using appropriate technology and information systems.
7. Analyze, evaluate, and apply relevant information from a variety of sources.
9. Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.
10. Manage the use of time and other resources to complete projects.
11. Take responsibility for one's own actions, decisions, and consequences.

**There are 11 Essential Employability Skills outcomes as per the Ministry Program Standard. Of these 11 outcomes, the following will be assessed in this course.*

New Essential Skills (NES)

The student will reliably demonstrate the ability to*:

1. Make responsible financial decisions with confidence using money management skills and knowledge.
5. Explore, gather, interpret and visualize industry-relevant data to effectively communicate analytical insights for evidence-based decision making.

*There are 9 institutional New Essential Skills outcomes. Of these 9 outcomes, the following will be assessed in this course.

Global Citizenship and Equity (GC&E) Outcomes

N/A

Methods of Instruction

This is an online course which includes online student-led participation.

Text and Other Instructional/Learning Materials

Text Book(s):

There are no required textbooks for this course.

Online Resource(s):

Luminate

Material(s) Required for Completing this Course:

Computer and high-speed internet High speed internet - ideally, min 15mbps (upload), 25 mbps (download)

Laptop or desktop. Chromebooks are not recommended. Web browser: recommended Google Chrome or Firefox Also recommended: keyboard, mouse, headset, webcam

All items improve experience, but a computer, webcam and internet are ultimately needed

Classroom and Equipment Requirements

Computer, webcam and high-speed internet:

Laptop or desktop. Chromebooks are not recommended.

High speed internet - ideally, min 15mbps (upload), 25 mbps (download) Web browser: recommended Google Chrome or Firefox

Also recommended: keyboard, mouse, headset,

Evaluation Scheme

- ✦ Test 1: Maths Basics
- ✦ Test 2: Business Math
- ✦ Test 3: Hospitality Math
- ✦ Online Unit Quiz: Online Unit Quizzes: 7 quizzes, one per unit.

Evaluation Name	CLO(s)	EES Outcome(s)	NES Outcome(s)	GCE Outcome(s)	Weight/100
Test 1	1, 2, 3	3, 4, 5, 7, 9			25
Test 2	4, 5, 6, 7	3, 4, 5, 7, 10	1		20
Test 3	8, 9, 10, 11, 12	3, 4, 5, 6, 7, 10, 11	5		20
Online Unit Quiz	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	3, 4, 5, 6, 7, 10, 11	1, 5		35
Total					100%

If students are unable to write a test they should immediately contact their professor or program Associate Dean for advice. In exceptional and well documented circumstances (e.g. unforeseen family problems, serious illness, or death of a close family member), students may be able to write a make-up test.

All submitted work may be reviewed for authenticity and originality utilizing College approved plagiarism prevention software. Students who do not wish to have their work submitted to College approved plagiarism prevention software must, by the end of the second week of class, communicate this in writing to the instructor and make mutually agreeable alternate arrangements.

When writing tests, students must be able to produce official Centennial College photo identification or they may be refused the right to take the test or test results will be void.

Tests or assignments conducted remotely may require the use of online proctoring technology where the student's identification is verified and their activity is monitored and/or recorded, both audibly and visually through remote access to the student's computer and web camera. Students must communicate in writing to the instructor as soon as possible and prior to the test or assignment due date if they require an alternate assessment format to explore mutually agreeable alternatives.

Student Accommodation

The Centre for Accessible Learning and Counselling Services (CALCS) (<http://centennialcollege.ca/calcs>) provides programs and services which empower students in meeting their wellness goals, accommodation and disability-related needs. Our team of professional psychotherapists, social workers, educators, and staff offer brief, solution-focused psychotherapy, accommodation planning, health and wellness education, group counselling, psycho-educational workshops, adaptive technology, and peer support. Walk in for your first intake session at one of our service locations (Ashtonbee Room L1-04, Morningside Room 190, Progress Room C1-03, The Story Arts Centre Room 285, Downsview Room 105) or contact us at calcs@centennialcollege.ca, 416-289-5000 ext. 3850 to learn more about accessing CALCS services.

Use of Dictionaries

Program or School Policies

N/A

Course Policies

N/A

College Policies

Students should familiarize themselves with all College Policies that cover academic matters and student conduct.

All students and employees have the right to study and work in an environment that is free from discrimination and harassment and promotes respect and equity. Centennial policies ensure all incidents

of harassment, discrimination, bullying and violence will be addressed and responded to accordingly.

Academic Honesty

Academic honesty is integral to the learning process and a necessary ingredient of academic integrity. Forms of academic dishonesty include cheating, plagiarism, and impersonation, among others. Breaches of academic honesty may result in a failing grade on the assignment or course, suspension, or expulsion from the college. Students are bound to the College's AC100-11 Academic Honesty and Plagiarism policy.

To learn more, please visit the Libraries information page about Academic Integrity

<https://libraryguides.centennialcollege.ca/academicintegrity> and review Centennial College's Academic Honesty Module:

https://myappform.centennialcollege.ca/centennial/articulate/Centennial_College_Academic_Integrity_Module_%202/story.html

Use of Lecture/Course Materials

Materials used in Centennial College courses are subject to Intellectual Property and Copyright protection, and as such cannot be used and posted for public dissemination without prior permission from the original creator or copyright holder (e.g., student/professor/the College/or third-party source). This includes class/lecture recordings, course materials, and third-party copyright-protected materials (such as images, book chapters and articles). Copyright protections are automatic once an original work is created, and applies whether or not a copyright statement appears on the material. Students and employees are bound by College policies, including AC100-22 Intellectual Property, and SL100-02 Student Code of Conduct, and any student or employee found to be using or posting course materials or recordings for public dissemination without permission and/or inappropriately is in breach of these policies and may be sanctioned.

For more information on these and other policies, please visit www.centennialcollege.ca/about-centennial/college-overview/college-policies.

Students enrolled in a joint or collaborative program are subject to the partner institution's academic policies.

PLAR Process

This course is eligible for Prior Learning Assessment and Recognition (PLAR). PLAR is a process by which course credit may be granted for past learning acquired through work or other life experiences. The PLAR process involves completing an assessment (portfolio, test, assignment, etc.) that reliably demonstrates achievement of the course learning outcomes. Contact the academic school to obtain information on the PLAR process and the required assessment.

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Topical Outline (subject to change):

ORIGINAL TOPICAL

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name and Weight	Evaluation Date
1-2	Unit 01: Place Value, Fractions, Decimals and Percentage	All reading available in online content	<ol style="list-style-type: none"> 1. Identify place values and types of fractions; 2. Convert different types of fractions: proper, improper, mixed number and lowest term; 3. Convert fractions to decimals and decimals to fractions; a percent to a decimal or fraction and decimal to a percent; 4. Complete operations of fractions and decimals including: addition, subtraction, multiplication and division; 5. Round given numbers based on the situation. 	Online content Instructional Videos Knowledge Checks Unit Quizzes	Unit 01 Quiz	Week 02
3-5	Unit 02: Algebra and Word Problems	All reading available in online content	<ol style="list-style-type: none"> 1. Demonstrate a thorough knowledge of the order of operations using BEDMAS concepts to solve math equations; 2. Complete basic algebraic operations including addition, subtraction, multiplication, division and substitution; 3. Solve simple equations involving one variable; 4. Solve word problems by manipulating basic and complex algebraic equations; 5. Solve word problems by calculating the part, whole or percent using the percent triangle; 6. Review concepts of math basics and algebra. 	Online content Instructional Videos Knowledge Checks Unit Quizzes	Unit 02 Quiz Test 01	Week 04 Week 05
6	Unit 03: Cost with Trade Discounts	All reading available in online content	<ol style="list-style-type: none"> 1. Compute discount amounts, discount rate, net price and list price; 2. Calculate the net price using the factor approach; 3. Calculate markup and markdown; 4. Calculate payment terms and cash discounts; 	Online content Instructional Videos Knowledge Checks Unit Quizzes	Unit 03 Quiz	Week 06
7-9	Unit 04: Simple and Compound Interest	All reading available in online content	<ol style="list-style-type: none"> 1. Calculate the amount of simple interest; 2. Calculate the principal, rate or time; 3. Define and calculate variable interest as it relates to simple interest; 	Online content Instructional Videos Knowledge Checks Unit Quizzes	Unit 04 Quiz Test 02	Week 08 Week 09

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name and Weight	Evaluation Date
			4. Compute the future value and present value as relates to simple interest; 5. Define and calculate equivalent payments relating to simple interest; 6. Review simple interest financial products including savings accounts and loans; 7. Calculate the amount of compound interest; 8. Calculate the future value and present value as it relates to compound interest; 9. Define and calculate equivalent payments relating to compound interest.			
10-11	Unit 05: Food and Beverage Cost Calculations	All reading available in online content	1. Understand yield percent, APQ and EPQ concepts 2. Calculate the total food cost and cost percent; 3. Calculate the total beverage cost and number of servings; 4. Calculate the beverage cost and selling price; 5. Perform basic recipe costing.	Online content Instructional Videos Knowledge Checks Unit Quizzes	Unit 05 Quiz	Week 11
12	Unit 06: Special Events and Hotel Operations	All reading available in online content	1. Perform room capacity and décor layout calculations involving perimeter and area; 2. Analyze cost associated with determining equipment rental over purchase; 3. Solve calculations for determining HST and taxes of events for redemption of payment; 4. Calculate the ADR; 5. Determine the occupancy rate; 6. Use the RevPAR formula.	Online content Instructional Videos Knowledge Checks Unit Quizzes	Unit 06 Quiz	Week 12
13	Unit 07: Labour Calculations and the Income Statement	All reading available in online content	1. Calculate cost of full-time and part-time staff compensation; 2. Describe and calculate the cost of CPP and government taxes; 3. Calculate the labour turnover rate; 4. Explain labour cost control; 5. List the main sections of a basic income statement; 6. Calculate profit/loss.	Online content Instructional Videos Knowledge Checks Unit Quizzes	Unit 07 Quiz	Week 13
14	Test 3	Units 5-7	As in Units 5-7	Online Test	Test 3	Week 14