

# M6 Business Math Elective

## Course Syllabus - 2025 Term 1

**Teacher:** James Jackson

**Department:** Mathematics

**Periods per week:** 1

**Credits:** 0.5

**Subject Code:** MA...

### Course Description

The Matayom Business Math elective is designed to introduce students to the practical mathematical skills necessary for success in the world of business, finance, and everyday life. The course covers a wide range of topics, including financial literacy, budgeting, interest calculations (simple and compound), loans and mortgages, investments, taxes, and business-related statistics. Through real-world applications, students will develop critical problem-solving abilities, analytical thinking, and decision-making skills that can be applied in personal finance and business management.

Students will develop a comprehensive marketing plan for a new product or service. The primary objective is to understand and apply the core concepts of marketing, defined as the process of getting people interested in a product by meeting their needs. Central to this project is the application of the **Marketing Mix**, also known as the **Four P's**: **Product** (features and quality), **Price** (cost to the consumer), **Place** (distribution channels), and **Promotion** (communication strategies). By utilizing these four elements, students will create a foundational marketing strategy for their invented product.

Students are tasked with first inventing a creative product and then detailing its features, pricing strategy, sales locations, and promotional tactics. The project culminates in a short presentation where students will pitch their marketing plan to the class as if they were seeking funding from investors. For a more in-depth analysis, students can complete extension activities, including defining a target audience through a customer persona and conducting a competitor analysis to identify a Unique Selling Proposition (USP). Assessment will be based on the student's understanding of marketing concepts, the originality of their idea, the clarity of their plan, and their presentation skills.

This course is ideal for students interested in pursuing careers in business, finance, accounting, economics, or entrepreneurship. Students will engage in hands-on activities, case studies, and projects to deepen their understanding of how math is used to solve real business problems. By the end of the course, students will have a strong foundation in the mathematical concepts and techniques essential for financial decision-making in both personal and professional contexts.

### Course Content

#### Semester 1

1. [Marketing Definition, Functions & Applications](#)

2. [Competitive Advantage: The Importance of Strategic Marketing](#)
3. [Business Plans: How to Develop a Business Mission Statement](#)
4. [SWOT Analysis | Definition, Process & Examples](#)
5. [Competitive Advantage | Definition, Types & Examples](#)
6. [Strategic Alternatives Definition, Classification & Examples](#)
7. [Target Marketing Strategies | Definition & Examples](#)
8. [Marketing Mix Definition, Analysis & Examples](#)
9. [Cash Control Definition & Examples](#)
10. [Financial Statement | Definition, Types & Importance](#)
11. [Financial Statements | Preparation & Examples](#)
12. [Financial Ratios Definition, Types & Analysis](#)
13. [Liquidity Ratio | Definition, Calculation & Examples](#)
14. [The Financial Planning Process](#)
15. [Financial Modelling | Types & Categories](#)
16. [Percentage of Sales Method | Overview, Formula & Examples](#)
17. [External Financing Needed | EFN Definition, Formula & Examples](#)
18. [Financial Growth Rates: Types & Determinants](#)
19. [Future Value Definition Formula & Examples](#)
20. [Time Value of Money | Definition, Formula & Calculation](#)
21. [How to Calculate Present Value of an Investment: Formula & Examples](#)
22. [Consumer Decision-Making Process | Overview & Steps](#)
23. [Consumer Behavior Theory and Marketing Strategy](#)
24. [Consumer Psychology and the Purchase Process](#)
25. [Brand Familiarity and the Purchase Process](#)
26. [Post-Purchase Dissonance | Definition, Behavior & Examples](#)

## **Semester 2**

27. [Buying Behavior and Marketing: Types of Consumer Buying Decisions](#)
28. [Influences on Consumer Buying Decisions: Cultures, Values & More](#)
29. [B2B vs. B2C | Definition, Marketing Strategies & Examples](#)
30. [Business Markets Definition, Types & Examples](#)

31. [New Buy, Straight & Modified Rebuys | Definition & Examples](#)
32. [Market Research Definition, Strategies & Examples](#)
33. [Marketing Research Project | Steps & Examples](#)
34. [Present & Future Values of Multiple Cash Flows](#)
35. [Annuity Definition, Formula & Examples](#)
36. [How to Find the Value of an Annuity](#)
37. [Perpetuity Definition, Formula & Examples](#)
38. [Compounding Interest | Formula, Types & Examples](#)
39. [Loan | Definition, Types & Examples](#)

## Learning Outcomes

### Semester 1

- [Marketing Definition, Functions & Applications](#)
  - Explore the concept of marketing.
  - Learn the definition of marketing and understand its different applications in businesses.
  - Discover the four Ps of marketing.
- [Competitive Advantage: The Importance of Strategic Marketing](#)
  - Classify the four types of strategic alternatives.
  - Define portfolio matrix, and identify the four quadrants.
  - Interpret examples of each quadrant.
- [Business Plans: How to Develop a Business Mission Statement](#)
  - Understand the importance of a business mission statement and the three steps to writing a good one.
- [SWOT Analysis | Definition, Process & Examples](#)
  - Understand what SWOT analysis marketing or situation analysis marketing is.
  - Discover what situational analysis is used for.
  - See a marketing SWOT analysis example.
- [Competitive Advantage | Definition, Types & Examples](#)
  - See the definition of competitive advantage.
  - Understand what a competitive advantage is.
  - Identify the types of competitive advantage, and see different examples.
- [Strategic Alternatives Definition, Classification & Examples](#)
  - Learn about strategic alternatives in marketing and understand how businesses use them.
  - Explore different classifications of strategic alternatives and see examples.

- **Target Marketing Strategies | Definition & Examples**
  - Learn the definition of market strategy.
  - Explore different target marketing strategies.
  - See business plans as target market examples.
  - Read about the marketing mix.
- **Marketing Mix Definition, Analysis & Examples**
  - Learn the four Ps of the marketing mix: Product, Price, Place, and Promotion.
  - See marketing mix product examples, as well as price, place, and promotion examples.
- **Cash Control Definition & Examples**
  - Learn about cash control.
  - Understand the definition of cash and the importance of cash control in business.
  - See how a cash management control system is set up.
- **Financial Statement | Definition, Types & Importance**
  - Learn about the types and importance of financial statements.
  - See the financial statement definition, and study the purpose of financial statements.
- **Financial Statements | Preparation & Examples**
  - Learn how to prepare financial statements, such as the balance sheet.
  - See which financial statement is prepared first and see how the adjusted trial balance is used.
- **Financial Ratios Definition, Types & Analysis**
  - Learn about financial ratios.
  - Understand what a financial ratio is.
  - Identify the types of financial ratios, and see what constitutes financial ratio analysis.
- **Liquidity Ratio | Definition, Calculation & Examples**
  - Learn what is a liquidity ratio and how to calculate the three commonly used liquidity ratios.
  - Learn how to interpret the ratios and make decisions.
- **The Financial Planning Process**
  - Define a financial plan for a business and the three vital questions in planning.
  - Identify the various considerations and process for any financial plan.
  - Understand what the variety of budgets could mean to the present and future.
- **Financial Modelling | Types & Categories**
  - Learn about financial planning and modeling.
  - Understand what financial modeling is, identify the types of financial models, and see the elements of financial models.
- **Percentage of Sales Method | Overview, Formula & Examples**
  - Learn about the percentage of sales method and understand how it is used in business.
  - See an example of how it is calculated using the percentage of sales formula.

- **External Financing Needed | EFN Definition, Formula & Examples**
  - Learn about external financing needed (EFN).
  - Discover how to define external financing needs and examine examples of the external financing needed formula.
- **Financial Growth Rates: Types & Determinants**
  - Financial growth rates measure increases made within a certain timeframe.
  - Learn more about growth rate, as well as two types of growth rates: internal and sustainable. Finally, read about four determinants of growth rates, including natural resources, available employees, technology, and consumers.
- **Future Value Definition Formula & Examples**
  - Understand the definition of future value and the future value formula.
  - Explore some examples that show how to calculate the future value of an investment.
- **Time Value of Money | Definition, Formula & Calculation**
  - Study the time value of money formula.
  - Learn the time value of money definition and practice how to calculate time value of money to understand the relation to purchasing power.
- **How to Calculate Present Value of an Investment: Formula & Examples**
  - Explore the definition of and formula for the present value of an investment, and see examples.
- **Consumer Decision-Making Process | Overview & Steps**
  - Learn about the consumer decision-making process.
  - Study the steps in the consumer decision-making process, including need recognition and evaluation of alternatives.
- **Consumer Behavior Theory and Marketing Strategy**
  - Define consumer behavior and how it affects marketing strategy.
  - Apply the four P's to any purchasing decision made by a consumer.
- **Consumer Psychology and the Purchase Process**
  - Explain how the psychology concepts of learning, memory and condition affect consumer purchases and brand recognition.
- **Brand Familiarity and the Purchase Process**
  - Explain the concept of purchase involvement.
  - Differentiate between the five types of brand familiarity.
- **Post-Purchase Dissonance | Definition, Behavior & Examples**
  - Explore post-purchase dissonance.
  - Learn the definition of post-purchase dissonance and understand post-purchase behavior. Discover post-purchase dissonance examples.

## Semester 2

- **Buying Behavior and Marketing: Types of Consumer Buying Decisions**
  - Describe the purchase involvement continuum, including the three points along it: nominal, limited and extended decision making
  - Explain the different marketing strategies involved with different levels along the purchase involvement continuum
- **Influences on Consumer Buying Decisions: Cultures, Values & More**
  - Explain what influences culture, values, social class, reference groups and opinion-leaders have on consumer buying decisions.
- **B2B vs. B2C | Definition, Marketing Strategies & Examples**
  - Learn to define what B2B and B2C refer to.
  - Find out the difference between B2B and B2C marketing strategies.
  - See examples of companies using B2B and B2C models.
- **Business Markets Definition, Types & Examples**
  - Explore business markets.
  - Learn the definition of a business market and discover its various examples.
  - Understand the different types of markets in business.
- **New Buy, Straight & Modified Rebuys | Definition & Examples**
  - Learn about new buys, straight rebuys, and modified rebuys.
  - Examine the definition of each type of purchase, and discover examples of and reasons for each.
- **Market Research Definition, Strategies & Examples**
  - Explore the process involved in marketing research strategies.
  - Discover what marketing research is, understand its important uses, and see some examples.
- **Marketing Research Project | Steps & Examples**
  - Learn about the marketing research process.
  - Discover the steps of a marketing research project, and study examples of various types of marketing research.
- **Present & Future Values of Multiple Cash Flows**
  - Understand that the value of investments changes over time, and this can be applied to multiple cash flows.
  - Identify how to calculate both the present and future values applied specifically to cash flows.
- **Annuity Definition, Formula & Examples**
  - Learn about annuities.

- Understand what an annuity is, examine the annuity formula and learn how to calculate its future value, and see examples of annuities.
- **How to Find the Value of an Annuity**
  - Describe annuities and understand how they work
  - Label numbers from an equation
  - Recall the equation for and calculate the future value of an annuity
- **Perpetuity Definition, Formula & Examples**
  - Learn what perpetuity is in finance.
  - Understand the meaning and definition of perpetuity, its characteristics and how its present value can be found using a formula.
- **Compounding Interest | Formula, Types & Examples**
  - Review the definition of compound interest.
  - Use the compound interest formula in daily, monthly, quarterly, and annual compound interest example calculations.
- **Loan | Definition, Types & Examples**
  - Learn about interest-only, amortization, and pure discount loans.
  - Study definitions and examples of each type of loan, and identify their pros and cons.

## Learning Resources

- [Study.com](https://www.study.com)

## Assessment Methods

- Students will be assigned 2 topics per period.
- Students will be assessed on the number of topics they complete.

## Homework Policy

- There is no homework set for this course
- Unfinished classwork is the responsibility of the student to complete

## Evaluation Breakdown

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Assessments                                                                                                                                                                                                   | 100% |
| <ul style="list-style-type: none"> <li>● Students will be expected to complete 2 topics per period           <ul style="list-style-type: none"> <li>○ Pass a short quiz for each topic</li> </ul> </li> </ul> |      |