    1.7.2 The chain rule

    1.7.3 Derivatives of exponential and logarithmic functions

    1.7.4 Implicit differentiation

  1.8. Higher order derivatives

Unit 2. Applications of Derivatives   LH 10

  2.1 Derivatives and graphs of functions

  2.2 Calculation of rates of change

  2.3 Increasing and decreasing functions

  2.4 Calculation of optimum values using second order derivatives and higher order derivatives

  2.5 Absolute extrema on a closed interval

  2.6 Calculation for marginal values

  2.7 Price elasticity of demand

B. Integral Calculus

Unit 3. Integration and Applications   LH 14

  3.1 Antiderivatives

  3.2 Integration as the reverse process of differentiation

  3.3 Integration by Algebraic substitution

  3.4 Integration by parts

  3.5 Integration of logarithmic and exponential function

  3.6 Integration by decomposing the integrand into partial fractions

  3.7 Integration with initial conditions

  3.8 Finding area using definite integral

  3.9 Evaluation of improper integrals

  3.10 Consumers' surplus and producers' surplus

  3.11 First order differential equations

C. Multivariable Calculus

Unit 4. Functions of Several Variables   LH 12

  4.1 Introduction and examples of variables

  4.2 Partial derivatives

  4.3 Application of partial derivatives in economics and business problems

  4.4 Optimization of functions of two variables

  4.5 Optimization of function of three variables

  4.6 Unconstrained optimization

  4.7 Unconstrained optimization and lag range multiplier

Basic Textbooks:

Lial M, Hungerford Thomas W. and John Holcomb: *Mathematics with Applications*, Tenth Edition, Pearson.

References Books:

Barnett Raymond A., Ziegler Michael R. and Karl E. Byleen: *College Mathematics for Business, Economics, Life Sciences and Social Sciences*, Twelfth Edition, Pearson.

Haeussler Ernest F., Richard S. and Richard J. Wood: In*troductory Mathematical Analysis for Business, Economics and the Life and Social Sciences*, Thirteenth Edition, Pearson.

Hoffman Laurence D., et all: *Applied Calculus for Business, Economics and the Social and Life Sciences*, Eleventh Edition, McGraw Hill.

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Far Western University
Faculty of Management
Syllabus (BBA: Second Semester)

Course Title:	*Principles of Macroeconomics*	*Course Code: ECO 123*	
Year:	*First*	*Level: Undergraduate*	
Semester:	*II*	*Program: BBA*	
Credits hours:	*3*	*Lecture hours: 48*	

Course Description

The Principles of Macroeconomics course covers topics such as concept of macroeconomics, national income accounting, income determination theories, consumption and saving functions, investment function, inflation, unemployment, business cycles, and the roles of fiscal and monetary policies. This course also addresses current macroeconomic issues and policies, focusing on the Nepalese economy, globalization, economic liberalization, and environmental sustainability. The course equips students with the analytical skills and theoretical knowledge to address macroeconomic issues, making them well-prepared for advanced studies and professional careers in business administration.

Course Objectives

This course aims to provide students with a comprehensive understanding of the fundamental principles of macroeconomics, including the interdependence of microeconomic and macroeconomic variables and model building. The course seeks to deepen students' knowledge of consumption and saving functions, the psychological aspects of consumption, and the paradox of thrift. Through examining classical and Keynesian employment theories and the IS-LM model, students will understand income determination and general equilibrium in different sectoral economies. The course also covers critical macroeconomic issues such as inflation, unemployment, and business cycles, providing insights into their measurement and implications. Students will learn about investment functions, including the multiplier, the accelerator theory, and the determinants of investment. Additionally, the course addresses macroeconomic policies such as fiscal and monetary policies, their objectives, instruments, and current applications in Nepal. Finally, students will engage with contemporary macroeconomic issues, including globalization, economic liberalization, and privatization.

Learning Outcomes

After studying this course, students will be able to:

- Explain the meaning, scope, and importance of macroeconomics and its relationship with microeconomics.
- Demonstrate proficiency in measuring national income using different approaches and understand the challenges involved.
- Analyze consumption and saving behaviors, and understand the psychological and economic determinants of these functions.
- Explain the concept of the multiplier and its different types, including investment, government expenditure, and tax multipliers.
- Compare and contrast classical and Keynesian theories of employment and their implications for income determination.
- Understand and derive the IS-LM model, explaining shifts in curves and their impact on equilibrium income.
- Evaluate the types, theories, and determinants of investment, and the relationship between marginal efficiency of capital and investment.
- Elucidate fiscal and monetary policies, their objectives, instruments, and current applications in Nepal.
- Examine globalization, economic liberalization and privatization.

Course Content

Unit I: Basic Concepts of Macroeconomics and National Income Accounting LH 11
    1.1 Meaning and definition of Macroeconomics
    1.2 Scope of Macroeconomics
    1.3 Macroeconomic variables and model building
    1.4 Concept of national income
    1.5 Circular flow of income and expenditure in two, three and four sector economy
    1.6 National Income Accounting
        1.6.1 Gross domestic production (GDP): nominal GDP and real GDP
        1.6.2 Gross national production (GNP)
        1.6.3 Net national production (NNP)
        1.6.4 National income (NI)/NNP at factor cost
        1.6.5 Personal income (PI)
        1.6.6 Disposable income (DI)
        1.6.7 Per-Capita income (PCI)
    1.7 Measurement of National Income (Production method, Income method and Expenditure method)
    1.8 Difficulties in measurement of national income
    1.9 Informal economy, underground economy
    (Case analysis/ numerical practices)

Unit 2: Consumption and Saving Functions LH 4
    2.1 Consumption function
        2.1.1 Meaning of consumption function
        2.1.2 Average propensity to consume (APC) and marginal propensity to consume (MPC)
        2.1.3 Psychological law of consumption
        2.1.4 Determinants of consumption function
    2.2 Saving function
        2.2.1 Average propensity to save (APS) and marginal propensity to save (MPS)
        2.2.2 Derivation of saving function from consumption function
    2.3 Paradox of thrift
    (Case analysis/ numerical practices)

Unit 3: Theories of Employment LH 6
    3.1 Say's Law of Market
    3.2 Classical theory of employment
    3.3 Criticism of classical theory of employment
    3.4 Keynesian theory of employment
    3.5 Criticism of Keynesian theory of employment
    (Case analysis/ numerical practices)

Unit 4: General Equilibrium Model (IS-LM Model) LH 6
    4.1 Concept of general equilibrium
    4.2 Derivation of IS curve and product market equilibrium
    4.3 Shift in IS curve and its effect on equilibrium
    4.4 Derivation of LM curve and money market equilibrium
    4.5 Shift in LM curve and its effect on equilibrium income
    4.6 General Equilibrium Model (IS-LM Model)
    (Case analysis / numerical practices)