Outcome Comparisons Between NMT and Articulated Matrix Courses

This document contains comparisons between articulated outcomes and the goals we have for the following courses at the Department of Management at New Mexico Tech. Five courses are summarized:

Principles of Microeconomics
Principles of Macroeconomics
Principles of Finance
Principles of Marketing
Business Law I

We are also requesting the removal of BCS 283, Introduction to Applied Statistics, from the matrix. That course has a co-requisite of second-semester calculus, and is taught by the Mathematics Department at NMT. Because the course is calculus based, it is not substantially equivalent to the other courses on the matrix.

Each course-outcome comparison was prepared by individual faculty members, and the entries for the Micro and Macroeconomics courses provide more detail than the entries for the other three. Principles of Finance and Principles of Marketing have BCS 283 as a pre-requisite, and these are also calculus-based. Business Law I at NMT has a large property-law component.

Peter Anselmo
Associate Professor and Chair
Department of Management
New Mexico Institute of Mining and Technology
NMT – ECONOMICS 251: PRINCIPLES OF MACROECONOMICS

NMT’s “Principles of Macroeconomics” course differs substantially from the standard Macroeconomics course described by the articulation matrix. Economics 251 addresses basic macroeconomics issues with depth and complexity far beyond the core competencies. As a foundation course in a business management department, it also addresses macroeconomic policy in ways that are relevant to management decisions in the contemporary business environment of global economic integration.

This introduction will provide an overview of the differences in outcomes and methods, but please refer to “NMT Economics 251 and Matrix Economics 2113 -- Macroeconomics Learning Objectives Compared”, included below, for specifics. After listing the basic macroeconomics objectives from the articulation matrix, the Economics 251 list of course objectives highlights in bold print the specific learning objectives that are NOT part of the basic matrix course.

DIFFERENT LEARNING OUTCOMES

Different course objectives create different learning outcomes. Economics 251 requires a higher level of conceptual understanding and analysis than the matrix course. This greater depth is manifest in: (a) the statistical analysis of economic aggregates, (b) complex circular flow analysis, (c) use of the income-expenditure diagram in addition to basic tools of aggregate demand and aggregate supply, (d) application of the consumption function, investment function, and net exports analysis; (e) measurement of the effects of taxation and spending using the Keynesian multiplier; (f) the applications of the money multiplier; and (g) consideration of deficits, surpluses and the national debt.

The most striking difference is the course-wide emphasis on policy development and applications in response to new macroeconomic problems as they have evolved within the context of global economic integration. This theme manifests itself analytically in the examination of: (a) the American economy overview; (b) productivity factors; (c) multiple “supply-side” theories; (d) the dimensions of the Keynesian-monetarist debate; (e) short-run vs. long-run Phillips curves; (f) mercantilist strategies in a free-trade environment; (g) the impact of the global monetary system on consumers and business firms; and (h) the relationship between exchange rates and macroeconomic decision-making in the new global economy.

The policy theme manifests itself developmentally in: (a) deep exploration of the significant episodes of macroeconomic history; (b) the convergence hypothesis; (c) the evolution of the three 20th century systems for exchange rate management; (d) the development of multilateral institutions to manage free trade; and (e) analysis of the Federal Reserve responses to the Great Recession of 2008 compared to the Great Depression.
DIFFERENT LEARNING METHODS

Economics 251 embraces the NMT Management Department’s emphasis on developing high standards of business communication – in discussion and writing. The course is taught in a quasi-seminar style using methods of active questioning and discussion, in addition to lecture and film presentations. The course focus is on how and why – using multiple case studies to show the practical application of macroeconomic concepts. Course reading includes at least one non-textbook work on macroeconomic issues – in addition to analytical articles from the business press. Additionally, much assessment occurs through writing – using take-home essays for complex issues, and in-class blue book essays for shorter content.

OUR BASIC CONCLUSION

A transfer student who has taken and passed the matrix course in Macroeconomics would not be prepared to pass the standard assessments in NMT’s Economics 251.

NMT ECONOMICS 251 & MATRIX ECONOMICS 2113 -- MACROECONOMICS LEARNING OBJECTIVES COMPARED

ECON 2113 Macroeconomic Principles

Students will be able to:

Explain the concepts of opportunity cost, comparative advantage and exchange;

Demonstrate knowledge of the laws of supply and demand and equilibrium and use supply and demand curves to analyze responses of markets to external events.

Explain the circular flow model and use the concepts of aggregate demand and aggregate supply to analyze the response of the economy to disturbances;

Explain the concepts of gross domestic product, inflation and unemployment and how they are measured;

Describe the determinants of the demand for money, the supply of money and interest rates and the role of financial institutions in the economy;

Define fiscal policy and monetary policies and how these affect the economy;

Explain foreign exchange rates and markets and the balance of payments;

Explain how trade restrictions affect the economy.
FROM NMT ECONOMICS 251 SYLLABUS

Non-bold = shared characteristics with Econ 2113 core competencies
Bold = not-shared or mentioned in Econ 2113 core competencies

The following learning objectives will delineate the macroeconomic factors relevant to problems facing the management of business firms. Students will demonstrate an understanding of:

1. The defining characteristics of the American economy at the beginning of the 21st century – including private enterprise, international trade, patterns of GDP growth, workforce, and the multiple roles of government.

2. The implications of economic scarcity for choice, efficiency, opportunity cost, and the allocation of resources. How to describe these relationships utilizing the production possibilities frontier.

3. The economic factors influencing supply and demand. How the interaction of supply and demand influence prices in a market economy. How to apply these concepts using graphical analysis.

4. How the evolution of macroeconomic analysis has been driven by attempts to find pragmatic and conceptual solutions to the unique economic problems of the 20th and 21st centuries. The major episodes of economic crisis and significant innovations in government management of the economy.

5. The statistical meaning -- including strengths and limitations -- of the major economic aggregates: (a) nominal and real gross domestic product, (b) unemployment, (c) inflation. How these aggregates affect economic growth. The costs of macroeconomic policies that focus on these aggregates.

7. The economic factors influencing productivity. How the rate of productivity affects economic growth. The convergence hypothesis.

8. The Keynesian theory of aggregate demand. How it organizes the relationships among factors which influence income and spending. Application of these concepts using the simple and complex circular flow diagram, the income-expenditure diagram, and aggregate supply / aggregate demand analysis. The factors which influence the consumption function, investment function, and net exports.


10. The management of aggregate demand through fiscal policy. The benefits and costs of macroeconomic policy choices. Measurement and calculation of the effects of taxation and spending using the Keynesian multiplier.

11. The nature and definitions of money. Institutions and practices of the banking system. How banks create money and measurement of this process using the money multiplier.
12. The Federal Reserve and its management of interest rates, the money supply and aggregate demand using monetary policy. The impact of interest rate changes on consumer and business decisions.

13. The debate between Keynesians and Monetarists, and its implications for macroeconomic stabilization policy.


15. Short-run and long-run Phillips curves and their explanations of the tradeoffs between inflation and unemployment.

16. The role of international trade in the American economy. The meaning of comparative advantage. The free trade vs. protectionism debate, and its effects on consumers and businesses. The implications of mercantilist strategies. Institutionalizing free trade using multilateral institutions.


18. The relationship between exchange rates and macroeconomic decision-making in the new global economy.
NMT – ECONOMICS 252: PRINCIPLES OF MICROECONOMICS

NMT’s “Principles of Microeconomics” course differs substantially from the standard Microeconomics course described by the articulation matrix. Economics 252 addresses basic microeconomics issues with depth and complexity far beyond the core competencies. As a foundation course in a business management department, it also includes topics that are not usually addressed in a standard introductory level microeconomics course.

This introduction will provide an overview of the differences in outcomes and methods, but please refer to “NMT Economics 252 and Matrix Economics 2123 -- Microeconomics Learning Objectives Compared”, presented below, for specifics. After listing the basic microeconomics objectives from the articulation matrix, the Economics 252 list of course objectives highlights in bold print the specific learning objectives that are NOT part of the basic matrix course.

DIFFERENT LEARNING OUTCOMES

Different course objectives create different learning outcomes. Economics 252 requires a higher level of conceptual understanding and analysis than the matrix course. The most striking difference is the course-wide emphasis on marginal analysis with the extensive use of graphs to structure and explain economic decisions. This theme of marginal analysis is used in utility, cost and profit analysis – and is also applied to the basic market types – perfect competition, monopoly, monopolistic competition and oligopoly.

A comparison of learning objectives will also reveal the following requirements for greater conceptual complexity in Economics 252. A list of some of the additional concepts includes: (a) optimal purchase rule; (b) consumer’s surplus; (c) the production function; (d) marginal physical product and marginal revenue product; (e) short run vs. long run costs; (f) economies of scale; (g) profit maximization analysis; (h) profit, lost and shutdown under perfect competition; (i) economic profit vs. accounting profit; (j) natural monopoly; (l) profit-maximization vs. sales-maximization strategies; (m) kinked demand curve; (n) market failure – including externalities, rent-seeking, public goods and moral hazard; (o) regulation vs. de-regulation; (p) market-based economic innovation, (q) stocks, bonds, mutual funds, stock exchanges and speculation; (r) labor unions.

Additionally, as a foundation course in contemporary business management, two themes are emphasized through non-textbook reading and course films: (1) the nature of economic globalization, and (2) cultural differences between economic systems – and how these differences impact microeconomic decision-making.
DIFFERENT LEARNING METHODS

As a business management course, Economics 252 embraces the NMT Management Department’s emphasis on developing high standards of business communication – in discussion and writing. The course is taught in a quasi-seminar style using methods of active questioning and discussion, in addition to lecture and film presentations. The course focus is on how and why – using multiple case studies to show the practical application of microeconomic concepts. Course reading includes at least one non-textbook work on globalization issues – in addition to analytical articles from the business press. Additionally, much assessment occurs through writing – using take-home essays for complex issues, and in-class blue book essays for shorter content.

OUR BASIC CONCLUSION

A transfer student who has taken and passed the matrix course in Microeconomics would not be prepared to pass the standard assessments in NMT’s Economics 252.

NMT ECONOMICS 252 & MATRIX ECONOMICS 2123 -- MICROECONOMICS LEARNING OBJECTIVES COMPARED

ECON 2123, Microeconomic Principles

Students will be able to:

- Explain the concept of opportunity cost;
- Demonstrate knowledge of the laws of supply and demand and equilibrium and use supply and demand curves to analyze responses of markets to external events;
- Explain the concepts and calculate price elasticity of demand and supply and income elasticity;
- Demonstrate an understanding of consumer choice including utility analysis;
- Demonstrate an understanding of producer choice, including cost analysis and break even point;
- Compare and contrast the following market structures: perfect competition, monopoly, monopolistic competition, and oligopoly;
- Explain the impact of government intervention in markets including price ceilings and price floors, the impact of taxes, and antitrust;
- Explain the role of labor and capital markets.
FROM NMT ECONOMICS 252 SYLLABUS

Non-bold = shared characteristics with Econ 2113 core competencies
Bold = not-shared or mentioned in Econ 2113 core competencies

Specific Learning Objectives in pursuit of these Outcomes will be defined and measured by demonstrating understanding of the following concepts and relationships which serve as basic tools in the microeconomic analysis of business problems:

1. The implications of economic scarcity for choice, efficiency, opportunity cost, and the allocation of resources. How to describe these relationships utilizing the production possibilities frontier.

2. The economic factors influencing supply and demand. How the interaction of supply and demand influence prices in a market economy. The consequences of price controls. How to apply these concepts using graphical analysis.

3. How the general principle of marginal analysis structures consumer and business decisions. How the application of this principle in a market system creates greater economic efficiency than traditional or command economies can achieve.

4. How the economic logic of utility explains consumer choice. The law of diminishing marginal utility. How to apply the optimal purchase rule and calculate consumer’s surplus. The law of demand.

5. Definition and determinants of price elasticity of demand. Measurement of price elasticity and cross-elasticity of demand. The implications of price elasticity of demand for consumer and firm behavior thru changes in total expenditures and total revenue.

6. How the economic logic of costs impacts production decisions. Utilizing the production function to manage inputs. Calculation of total, average and marginal physical products. Utilizing marginal revenue product to optimize input use. Understanding the relationship between total, average and marginal cost curves; between fixed costs and variable costs; and between analytical and historical cost curves. Applying the concept of average cost in a graphical analysis of short run and long run costs, and economies of scale.

7. How firms maximize total profit through the application of marginal cost and marginal revenue. Using graphical analysis and calculation of costs and revenues to determine the profit-maximizing point of output.

8. Definition and characteristics of perfect competition. Graphical analysis of situations of profit, loss, and shutdown under perfect competition. Economic profit vs. accounting profit. Why perfect competition represents the theoretical ideal of economic efficiency.

10. Definition and characteristics of monopolistic competition, and its implications for market production.


12. The characteristic types of market failure – externalities, public goods, rent-seeking, moral hazard, and the cost disease of personal services.

13. Antitrust policy and concentrated market power. The logic of regulation and deregulation.


15. The basic sources of business finance and how they impact market action. Stocks, bonds, and mutual funds. The roles of stock exchanges and speculation.

16. The market determination of wages and how that process is impacted by labor union activity.

17. The nature and components of economic globalization -- and how this process impacts decisions by corporations, labor unions and governments.

18. How differences of culture affect the formulation and solution of microeconomic problems.
NMT Principles of Finance FIN 302 & MATRIX Principles of Finance BFIN 2113 -- LEARNING OBJECTIVES COMPARED

BFIN 2113: Principles of Finance

Students will be able to

Demonstrate knowledge of financial statement analysis including understanding the preparation and content of the income statement, balance sheet, statement of stockholder's equity and cash flow statement; using financial statements to compute financial ratios; and understanding how these financial data are used to guide decision-making.

Explain the time value of money and its application in decision-making, including calculating present and future values of single payments needed to produce a present or future value and demonstration of competency with respect to the valuation of bonds and perpetuities; the use of financial calculators and spreadsheet programs is recommended.

Be able to compute expected returns and standard deviations of returns given a probabilistic distribution; distinguish between unsystematic and systematic risk in efficient portfolio construction and explain how this relates to the risk-return tradeoff for the security market line.

Demonstrate knowledge of capital markets and securities (debt and equity); be able to calculate the selling price of a bond at any stage in its life and calculate the value of common and preferred stock when the growth rate in dividend is constant.

Demonstrate an understanding of the cost of capital to the firm, including the cost of debt and equity financing in determining the weighted average cost of financial asset acquisitions and the firm generally, and be able to compute the net present value, IRR and cash flow estimations for mutually exclusive projects and projects having unequal lifetimes.

Explain determinants of operating and financial leverage and the impact of leverage on the variability of earnings and rates of return.

Explain the cost-benefit analysis involved in working capital management decisions involving cash, accounts receivable, inventory, accounts payable and short term financing.
NMT Department of Management Principles of Finance Course

Financial Management: FIN 302

Prerequisites: Calculus for engineering and sciences; Applied Statistics or Mathematical Statistics. Students are strongly encouraged to have taken BFIN 2113, however BFIN 2113 is not a substitute for FIN 302.

Core review of course content for BFIN 2113. Analysis of financial statements and financial ratios; derivation and application of standard financial analytical formula for savings-investment decision analysis, e.g. present value, future value, internal rate of return. Cost-benefit analysis of debt-equity financing decisions and working capital management decisions.

Introduction and application of valuation methods for bonds and stocks based on efficient market principles, e.g. rational choice, perfect information and unconstrained arbitrage. Applications include the use of the discounted dividend growth model, discounted cash-flow analysis, and arbitrage pricing theory (law-of-one price). Introduction to asset valuation for contingent claim contracts using binomial option pricing and the Black-Scholes option pricing framework.

Application of Gaussian and Bayesian statistics in the construction and analysis of asset portfolios and contingent-claim valuations. Application of optimization algorithms in assessing informationally efficient and semi-efficient portfolio choices and managing risk-reward tradeoffs. Analysis of the impact of increased financial leverage and credit risk using parametric simulations of market shocks affecting cash flows and asset values.
MKTG 2113: Principles Of Marketing

Students will be able to

Demonstrate an understanding of the professional and ethical responsibilities of marketers.

Explain the nature of goods, services, and ideas.

Define the concepts of target markets, market segmentation and the marketing mix.

Explain the components of pricing.

Describe the operation of channels of distribution and supply chains.

Explain the importance of market research in marketing decision making.

Demonstrate an understanding of the elements in the marketing environments.

Explain the components of marketing management.
NMT Department of Management Principles of Finance Course

NMT MKT 335

Prerequisites: calculus and statistics

MKT 335 provides an advanced understanding of managerial decision-making implied by the marketing mix variables: product, price, place and promotion. Special emphasis is given to technology-based marketing applications, such as marketing analysis of emerging technologies. Students build and apply a variety of microeconomic models to assess consumer choice, sales responsiveness, and game-theoretic pricing and advertising decisions. Analysis of the various marketing variables are discussed using selected Harvard case studies, in-class exercises and team projects.

Topics covered include

- Customer Value Assessment and Valuing Customers
- Optimal Advertising and Pricing Decisions
- Utility-based market response models
- Segmentation, and Targeting
- Strategic pricing and product positioning analysis
- The Marketing Plan

Hands-on proficiency in the application of theoretical concepts and quantitative tools is stressed through in-class exercises, homework assignments, and the development of a New Product Marketing Plan for an Emerging Technology. As a result of taking this course, students should gain a better understanding of how to analyze marketing mix variables and strategies using microeconometric and decision analysis tools.
NMT Business Law I BA 315 & MATRIX Business Law I BLAW 2113
-- LEARNING OBJECTIVES COMPARED

BLAW 2113, Business Law I

Students will be able to:

• Describe the sources of law;

• Describe and explain dispute resolution and the court systems in the United States;

• Demonstrate an understanding of the concepts of negligence, intentional torts and strict liability;

• Describe and apply the essential aspects of contracts from creation, performance, breach and remedies;

• Explain the Uniform Commercial Code law of sales, negotiable instruments and secured transactions, especially articles 2, 3, 4, and 9;

• Demonstrate an understanding of ethics and social responsibility, the ethical application of the law, and the relationship between ethics and the law.

NMT Department of Management Business Law I Course
BA 315 Business Law I

Outcomes:

Students will be able to:

• Describe the sources of law;

• Describe and explain dispute resolution and the court systems in the United States;

• Demonstrate an understanding of the concepts of negligence, intentional torts and strict liability;

• Describe and apply the essential aspects of contracts from creation, performance, breach and remedies; apply the concepts of contract law to intellectual property agreements.

• Describe and apply the concepts of real property.

• Describe and apply the concepts of personal property.

• Apply the general concepts of property law to intellectual property, including patents, copyrights and trade secrets.
• Demonstrate an understanding of ethics and social responsibility, the ethical application of the law, and the relationship between ethics and the law.

Methods:
Students will be evaluated by following processes to measure outcomes:

• Active participation in class discussions to demonstrate understanding of reading assignments.

• Preparation and presentation of case briefs.

• A series of essay tests in which students are presented with a fact pattern from which students must identify the major and minor issues, apply the correct rule of law to the fact pattern and reach a conclusion as to the probable outcome.