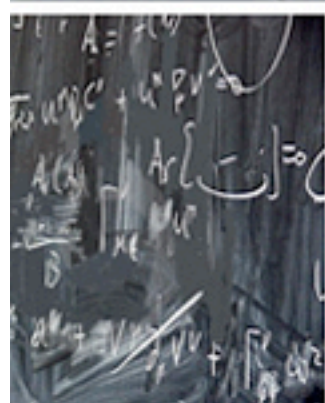


Leibniz University

Institute of Arts and Science

2006 GRADUATE BULLETIN



An American Private Distance Education Institution

Gottfried Wilhelm von Leibniz



In searching for a name for this new educational institution, the Board of Trustees sought to find a name that would exemplify an international and interdisciplinary approach to education and learning. We arrived at the name of Leibniz from the seventeenth century mathematician, philosopher and political advisor Gottfried Wilhelm Leibniz.

Leibniz was born in Leipzig on July 1, 1646, and he died in Hanover on December 14, 1716. Leibniz has been called the Aristotle of the seventeenth century and was a man characterized by avid desire for learning and knowledge, in all areas. Truly a renaissance man as that term has come to mean in our contemporary and specialized world.

Leibniz is credited with being the father our modern calculus, as well as a substantial contributor to the areas of algebra and the physics of mechanical energy. As a contemporary of Isaac Newton, the two mathematicians and philosophers engaged in a many year debate over the laws of mathematics and nature. The contributions both made endure today. In fact, Leibniz is credited with being the first person to recognize the importance of binary system of notation. The basis of modern computers is inextricably linked to the binary notation system. He devised a calculating machine that was the envy of its day, with the capacity to add, subtract, multiply and divide. In the area of science and math, Leibniz displayed forward thinking and scholarly mastery.

Leibniz was a member of the Royal Academy of Science in London and the Academy of Sciences in Paris. He and Newton were elected as the first foreign members of the prestigious Parisian Academy of Sciences. In 1700, Leibniz induced King Frederick I of Prussia to found the Academy of Sciences in Berlin and Leibniz became the founding president.

In addition to his work in science and math, Leibniz was an international traveler and an advisor to King Frederick I of Prussia, George I of Great Britain, when he was the elector and Peter the Great, Tsar of Russia. As a diplomat Leibniz attempted to dissuade King Louis XIV of France from invading Germany and waging a campaign in Egypt instead. Louis XIV was not dissuaded, but Napoleon Bonaparte heeded that advice a century later. Leibniz, as a diplomat, attempted to reconcile, without success the Catholic and Protestant churches.

*He was trained in philosophy, languages and law and contributed to the political and philosophical writings of the time in a number of European countries. In writing of the times he was in, Leibniz published a philosophical treatise in French trying to demonstrate that his time and place was “the best of all possible worlds” a phrase and attitude that was to be satirized by Voltaire in *Candide*.*

It is the spirit and life of learning and investigation evidenced by Leibniz in his math and science and his diplomacy and writing that exemplify the attitude we wish to convey to our students. Leibniz involvement throughout the world of his day in science and politics represents the best goals of academic learning and practical impact in the world. The Board of Trustees believes the University Institute that is his namesake will provide students the opportunity to follow a similar path to his.



SCHOOL OF ECONOMICS

Business Management

MK01 Marketing principles: basic terminology and marketing concepts applied to individual cases, the evolution of marketing in the last four decades, the concepts of market, product, strategic and operative marketing, choosing the appropriate distribution channels for a business to be successful, market segmentation, products life cycle, marketing mix and marketing planning (4 units)

MK02 Marketing Planning: the meaning and benefits of planning, the concept of vision and mission, SWOT analysis, the strategic marketing planning process, markets, competition, promotion, pricing, packaging. At the end of the course students will be able to draw a strategic marketing plan for a medium size enterprise or a corporate division (4 units)

MK03 Operative Marketing: Objective of the course is to take students from marketing theories and principles to the operative management of company activities. Students will learn how to use the marketing techniques to successfully managing a marketing operation, will analyze relationship and behavior of those involved in the decision process, and will perform a deep analysis of the marketing information systems, short term planning sales and cost analysis (3 units)

F01 Accountancy: theories and principles underlying financial statements, measurements and presentations of enterprises resources, liabilities and income in accordance with generally accepted accountancy principles (5 units)

MK06 Marketing strategies: in the first part, the course reviews corporate strategies, from definition of the 'mission', to identification of strategic business units, to analysis and evaluation of product and portfolio and the process of identification of new areas of activities of the business. Students will understand the different areas of business definitions-product oriented versus market oriented, and will learn the processes leading to strategic decisions with regard to attractiveness of markets, and competitive position of the company. The second part will introduce the marketing strategies of the different types of businesses, the role of company image and trademark, and the concept of global marketing. (3 units)

F05 Advanced Managerial Accounting: Introduction to decision –making situations that use accounting information for full or partial resolution. Consideration of uncertainty, decision theory and specific decision context; accounting for not-for-profit organizations:

principles of fund accounting useful in governmental units, hospitals, and universities. Comparisons with commercial accounting emphasized. Includes study of budgetary accounting, appropriations, encumbrances, internal checks and audit procedures (3 units)

MK08 The Business Plan: the first part the course will introduce the concept of the business plan and its different aspects and impact on the business, and will take the student into a step-by step analysis of all the components of the plan. In the second part, students will practice by drafting a business plan for a given medium size business. (3 units)

SM06 Marketing Principles for Sales: use of marketing techniques to manage a marketing and sales operation, analysis of relationships and behavior of all those involved in the selling and buying processes, the distribution structure, short term planning, relation inside different company functions and management of conflicts (3 units)

BS10 Leadership: definition of leadership, leadership styles, the decision process, difference between managers and leaders, indicators of leadership, the context of leadership, from management to leadership, team work and network (3 units)

BS11 Problem Solving: the approach to problem solving, perception, definition and analysis of problems, management of conflicts inside a group, scoring of solutions according to evaluation criteria, resolution of cases (3 units)

BS12 Motivation: the concept of motivation, push and attraction, needs and objectives, primary motivation, motivation of individuals and groups, analysis of enterprises structures and needs, motivation of company functions and individuals of the group (3 units)

BM21 – International Business Management: Strategies of international development, international relations between companies, market entry (4 units)



Master in Marketing and Finance

F01 Accountancy: Theories, principles and concepts underlying financial statements; measurements and presentation of enterprise resources, liabilities and income in accordance with generally accepted accountancy principles; special problem areas in the reporting of corporate assets and equities; principles and concepts as related to the measurement, determination, and presentation of resources, equities, and income of parent and affiliated companies (4 units)

F02 Managerial accounting: accounting in relation to the decision-making process; various cost systems, relevancy of various cost concepts; direct costing, flexible budgets, distribution costing; break-even analysis; capital budgeting and other techniques of management planning and control (3 units)

F03 Financial Principles and policies: finance and financial institutions as they relate to the firm and the flow of funds. Emphasis on the supply of and demand for capital; principles and tools of business finance; money and capital markets; factors of influence and sources and uses of data (4 units)

F04 Organizational Behavior and Human Resources Management: theories, practice and legal considerations of dealing with people in organizations. Analysis of organizational systems and managerial actions for accomplishing work through individuals and groups; the role of managers in smaller organizations and corporations, including strategic management of resources and environment, and implementation of strategy through organization design and process (3 units)

MK02 Marketing planning: the objective of the course is to introduce the basic concepts of marketing planning. Although MK 02 has no prerequisites, it is strongly recommended that students with no marketing background first take Leibniz course MK 01, Marketing Principles, in order to get the most out of the course, and gain a throughout comprehension of the subject. The first part of the course includes a number of lectures on the meaning and benefits of planning, introduces the concepts of 'vision' and 'mission', SWOT analysis, and takes the students through a step by step analysis of the strategic market planning process. At the end of the course students should be able to draw a strategic marketing plan for a small or medium size business. (4 units)

MK03 Operative marketing: The objective of the course is to take the students from marketing theories and principles to the operative management of company activities. The approach is very practical: students will learn how to use the marketing techniques to successfully manage a marketing operation by analysis of the relationships and behavior of

all people involved in the decision processes such as buyers, company, sales, distributors, and by performing a deep analysis of marketing information systems, short term planning, sales and costs analysis, decision taking as regards distribution channels and sales forces. Special emphasis will be placed on inter-company relationships and management of conflicts between different company organizations. (3 units)

F05 Advanced Managerial Accounting: Introduction to decision –making situations that use accounting information for full or partial resolution. Consideration of uncertainty, decision theory and specific decision context; accounting for not-for-profit organizations: principles of fund accounting useful in governmental units, hospitals, and universities. Comparisons with commercial accounting emphasized. Includes study of budgetary accounting, appropriations, encumbrances, internal checks and audit procedures (3 units)

F06 Policy Formulation: examination of the entrepreneurial approach; concepts, theories and techniques of managerial innovation and implementation; analysis of entrepreneurial skills; building and maintaining enterprises in our society; determining objectives; developing policies and plans for achievement; measuring and controlling organizational activities; reappraising objectives and policies on the basis of new developments (3 units)

F07 Business Finance: application of principles of finance to current problems in financial management, with emphasis on planning and development of tools for use in decision making (3 units)

MK06 Marketing strategies: in the first part, the course reviews corporate strategies, from definition of the ‘mission’, to identification of strategic business units, to analysis and evaluation of product and portfolio and the process of identification of new areas of activities of the business. Students will understand the different areas of business definitions-product oriented versus market oriented, and will learn the processes leading to strategic decisions with regard to attractiveness of markets, and competitive position of the company. The second part will introduce the marketing strategies of the different types of businesses, the role of company image and trademark, and the concept of global marketing. (3 units)

MK08 The Business Plan: the first part the course will introduce the concept of the business plan and its different aspects and impact on the business, and will take the student into a step-by step analysis of all the components of the plan. In the second part, students will practice by drafting a business plan for a given medium size business. (3 units)

MK09 Selecting the Optimum Product Line: an introduction to management accounting. Students will learn the basic techniques to evaluate and perform analysis of product portfolio, in order to define its contribution to global profitability of company. Students will review the role and nature of audit process, learn how to estimate profitability, strategic value and long term perspective of lines of business, and market dynamics (4 units)

MK10 Business to business marketing: an innovative course on the issues of industrial marketing. In the first part, after evaluating the business-to-business market, the course

will introduce the concept of industrial marketing, market research, market segmentation and positioning, industrial marketing mix, product, price and distribution policies. In the second part, the course will outline promotional and sales policies, and the strategic planning in the business-to-business sector. (3 units)



Economics and Finance
Banking and Insurance Sciences

Lower Level Courses

F03 Financial Principles and policies: finance and financial institutions as they relate to the firm and the flow of funds. Emphasis on the supply of and demand for capital; principles and tools of business finance; money and capital markets; factors of influence and sources and uses of data (4 units)

F 521 Life and Health Insurance: economic and social aspects of life and health insurance and of annuities, theories of probabilities, premiums, reserves and nonforfeiture values (3 units)

F 542 Insurance Principles and Practices : nature and extent of personal, business, and social risk (3 units)

FM 543 Statistics: as applied to the study and interpretation of economic phenomena (4 units)

FB 560 Financial Intermediation and Banking: emphasis on the structure of the securities markets (4units)

FL 570 Private Law: laws governing contracts and financial institutions (3 units)

F 579 Economics I : micro and macroeconomics to gain an understanding of the behavior of economic agents and national economic aggregates (4 units)

F580 Economics II: continuation of economics I (4 units)

IS 602 Information Systems: Quantitative Methods Measure of central tendency and variation sampling and various statistical tests such as analysis of variance, F,T, and X tests (3 units)

F 604 Financial Law for Business Executives: development, significance and interpretation of interrelationships of law and business (3 units)

F 605 Managerial Economics: role of economic theory in management analysis and decision (3 units)

ACC 632 Advanced Managerial Accountancy: principles and concepts as related to the measurement, determination, and presentation of resources, equities and income, income distribution and liquidation (3 units)

ACC 634 Auditing: application of auditing principles in verification of financial statements, internal control systems and operational auditing (4 units)

ACC 637 Seminar in Accounting Information Systems: design of accounting systems and current trends (3 units)

FL 630 Commercial Law: laws and regulations for the purpose of understanding the institutional framework applicable to intermediaries market and market instruments (4 units)

F 650 Seminar in Business Finance: application of principles of finance to current problems in financial management (3 units)

F 651 Seminar in Investments: examination of firms from an investment point of view (4 units)

F 652 Seminar in Security Analysis and Portfolio Management: security valuation and price forecasting, portfolio management theory, risk management and reduction analysis (4 units)

F 653 Seminar in Quantitative Analysis for Financial Decisions: quantitative techniques and the computer as employed in financial decisions (3 units)

F 654 Seminar in International Business Finance: international finance applied to business firms (3 units)

F 655 Seminar in Financial Markets: analysis of money and capital markets (3 units)

F 657 Seminar in Financial Counseling: financial needs of the individual, the decision making process and theory relative to those needs (3 units)

F 696 Special Study: individual study (3 units)



Business Administration

F03 Financial Principles and policies: finance and financial institutions as they relate to the firm and the flow of funds. Emphasis on the supply of and demand for capital; principles and tools of business finance; money and capital markets; factors of influence and sources and uses of data (4 units)

F 521 Life and Health Insurance: economic and social aspects of life and health insurance and of annuities, theories of probabilities, premiums, reserves and nonforfeiture values (3 units)

F 542 Insurance Principles and Practices : nature and extent of personal, business, and social risk (3 units)

FL 570 Private Law: laws governing contracts and financial institutions (3 units)

F 579 Economics I : micro and macroeconomics to gain an understanding of the behavior of economic agents and national economic aggregates (4 units)

F 580 Economics II: continuation of economics I (4 units)

ACC 600 Financial Accountancy: basic concepts and principles of financial accounting as a data processing system, measurement of business income, financial statements (4 units)

IS 602 Information Systems: Quantitative Methods Measure of central tendency and variation sampling and various statistical tests such as analysis of variance, F,T, and X tests (3 units)

ACC610 : Managerial accountancy: special problem areas in the reporting of corporate assets and equities, emphasis upon pronouncements of regulatory bodies such as Financial Accounting Standard Board and the Securities and Exchange commission (3 units)

ACC 633 Federal Income Tax Individual Federal Income Tax including deductions, credits, social security, and property transactions(4 units)

ACC 638 Seminar in managerial accounting: managerial and accounting concepts and procedures , including budgetary planning (4 units)

ACC 640: Seminar in Tax Resources and Planning :tax research with emphasis in solving tax planning problems introduction to statutory administration and judicial sources of tax law (4 units)

ACC 642 Seminar in auditing: selected issues (3 units)

ACC 644 Seminar in Federal Estate and Gift Tax :estate and Gift Tax problems, income taxation of Trusts and estates (4 units)

ACC 645 Seminar in Tax Practice :tax practice procedures as they affect the practitioner dealing with the IRS, statute of limitations ethical problems penalties, tax fraud(4 units)

ACC 646 Seminar in Compilation and Review Services: application cases on engagements to compile or review financial statements of public entities under accounting standards (4 units)

F 651 Seminar in Investments: examination of firms from an investment point of view (4 units)

F 652 Seminar in Security Analysis and Portfolio Management: security valuation and price forecasting, portfolio management theory, risk management and reduction analysis (4 units)

F 653 Seminar in Quantitative Analysis for Financial Decisions: quantitative techniques and the computer as employed in financial decisions (3 units)

MBA 620 Research and Reporting: principles of research design and data accumulation, analysis and effective presentation of data related to business (5 units)

MBA 700 Directed Reading in Business Administration: preparation for the MBA comprehensive examination (5 units)



Sales Management

SM01 Effective Selling Techniques: the different types of salesperson, customers typology and buying behavior, selling quality and service, dealing with price issues, how to conduct an effective sales call, analysis of the correct sales call, post sales techniques (4 units)

SM02 Customer marketing: the customer as the core of the enterprise, the customer oriented sales organization, customer satisfaction issues, analysis and measurement customer classification, sales forecasting and control, development and promotion of sales activities (3 units)

MK01 Marketing Principles: basic terminology and marketing concepts applied to individual cases, the evolution of marketing in the last four decades, the concepts of market, product, strategic and operative marketing, choosing the appropriate distribution channels for a business to be successful, market segmentation, products life cycle, marketing mix and marketing planning. (4 units)

SM03 Sales Force Training: understanding customer needs, analysis of distribution and sales organization, identification of sales force growth areas and motivation key points, planning a sales force training session, analysis of training needs, the training sessions in house and on field (5 units)

SM04 Building Customers Loyalty: customer satisfaction, buying behavior, building customer loyalty: assessment of loyalty, buying patterns, analysis of customer needs and problems, tools and strategies and tactics to build customer satisfaction and loyalty (4 units)

SM05 Sales Financials: Analysis and evaluation of financial data, performance assessment, selling profit, the value chain, adding value to the product, the cash flow, understanding the customer business setting objectives, business strategies, persuasive communication (5 units)

BS10 Leadership: definition of leadership, leadership styles, the decision process, difference between managers and leaders, indicators of leadership, the context of leadership, from management to leadership, team work and network (3 units)

SM06 Marketing Principles for Sales: use of marketing techniques to manage a marketing and sales operation, analysis of relationships and behavior of all those involved in the selling and buying processes, the distribution structure, short term planning, relation inside different company functions and management of conflicts (3 units)

MK07 Web Marketing: analysis of current market changes and different sales opportunities on the web, demographics of the internet, new promotion tools, techniques to generate traffic on a web site, management of the internet customer, legal aspects, new technologies for safe transactions on the net of transactions on the net (3 units)

MK10 Business to Business Marketing: an innovative course on the issues of industrial marketing. In the first part, after evaluating the business-to-business market, the course will introduce the concept of industrial marketing, market research, market segmentation and positioning, industrial marketing mix, product, price and distribution policies. In the second part, the course will outline promotional and sales policies, and the strategic planning in the business-to-business sector. (3 units)



Business English

- BE01:** Basic Commercial English (4 units)
- BE02:** Intermediate Commercial English (4 units)
- BE03:** English Composition (4 units)
- BE04:** Business English (4 units)

- BE05:** Advanced Business English (3units)
- BE06:** Effective Communication (3 units)
- BE07:** Advanced Commercial English (3 units)
- BE08:** Financial English (3 units)
- BE09:** Legal English (3 units)
- BE10:** Scientific English (3 units)



International Business Law

BM21 International Business Management: Strategies of international development, international relations between companies, market entry (5 units)

TXH02 Tax Shelters: Introduction to the concept of tax shelter, the main taxation systems, banks and tax control, international agreements (5 units)

DSI04 International Private and public Law Introduction to International Law, International agreements judicial relationship between private subjects of different nationality, delibation of foreign verdicts (6 units)

DSI03 International Business Law: International business: criteria and tendencies, international treaties, navigation laws (5 units)

DSI05 International Corporate Law: courts and judicial systems in different countries GEIE, multinational companies and corporations (4 units)

DS16 – Individual Study: independent study (3 units)

DS 18 Seminar in International Law: different topics on international law will be discussed (may be repeated up to 9 units credit)



SCHOOL OF LAW

Criminology

CO01 Introduction to Criminology: Definition of Crime, phenomena including crime, types of crime, crime theories, mental disturbances: correlation to crime, Rorschach test.(5 units)

CO02 Juvenile Delinquency: Adolescence and identity crisis, negative identity, the family and society, family conflicts, prevention of juvenile delinquency, alternatives to incarceration (4 units)

CO03 Victimology : study of victims personality: the accidental, passive, professional, symbolic victim. Types of victims (3 units)

CO04 International Crimes: General Principles of international law, war crimes, crimes against peace humanity, espionage, prevention and control of international crimes. (4 units)

CO05 Theories in criminology: the main theories in criminology :bio-anthropological, sociological and psycodynamic (4 units)

CO06 Mental Disturbances: relevance of mental disturbances (4 units)

CO07 Ideology and Criminality: ideologies and Illuminism, liberality and penal law, Cesare Beccaria, the positive and classic schools, from Marxist theories to critical criminology (4 units)

CO8 Criminology: the different theories explaining deviance and criminality: labeling, conflict, social control etc.(4 units)

CO09 Law and Criminology: characterization of crime and criminal in the mode and motivation to delinquent action (3 units)

SO01 – Introduction to Sociology : gli elementi della società:la cultura sociale, la socializzazione, l'interazione sociale ecc., la stratificazione e le classi sociali, le disuguaglianze, i ruoli di genere, i cambiamenti sociali. (3 units)

SO11 - Subcultures and Deviance: theories of Cloward and Ohlin, the subculture of delinquency of Cohen, the different theories context (5 units)



International Law

IL400 Law of Public International Organizations a study of international organizations in the classical sense and the European Union as the most advanced form of international organization presently existing under public international law, featuring both original problems and original solutions (5 units)

IL450 International and European Law in the National Legal Order course discusses the principles governing the legal effect and application of European and international law in the national legal order. It will examine the principles developed by the European Court of Justice (as regards European law) and international courts (as regards international law). The course also reviews the techniques that are used by national institutions, in particular national courts, to grant effect to European and international law. It will use case law from different states.(5 units)

IL453 European Constitutional Law the view from Brussels and Luxembourg and that of the member state courts and capitals. the Union as a political community and consequently subject legal particulars to this reading of the situation, national constitutional case law involving the Union.(4 units)

IL460 Comparative Law differences and similarities between two or more legal systems, the theory of comparative law, including the methodology of comparative research, the difference between comparative law and the study of foreign law, the main differences between Civil Law and Common Law; the characteristics of Islamic Law etc (4 units)

IL500 – International Private and public Law Introduction to International Law, International agreements judicial relationship between private subjects of different nationality, deliberation of foreign verdicts (6 units)

IL560 – Law of Treaties: introduction to the law of treaties as codified in the two Vienna Conventions on the Law of Treaties (of 1969 and 1986), the nature of the treaty instrument; the conclusion and entry into force of a treaty; the admissibility and the effect of reservations; the (in)validity of treaties; the lawful termination of treaties; the interpretation of treaties; the scope of treaties and the position of non-parties; the law of treaties in relation to municipal law as well as to other fields of international law such as the law on state succession and the law on international responsibility.(5 units)

IL575– State responsibility in International Law: the principles of state responsibility and the application of these principles in international case law of, among other institutions, the International Court of Justice, arbitration panels and human rights courts

(4 units).

IL590 International Constitutional Law: nature and implications of the constitutionalization of the international legal order, the emergence of an international constituency in the form of the international community (international organizations); the recognition of a community value system and the emergence of a hierarchy of norms (ius cogens) consisting predominantly of human rights norms, enforcement role of the principle organs of the United Nations (notably the Security Council, General Assembly and the International Court of Justice), and of other international actors such as international organizations and tribunals, mechanisms for increased democratic control over the international decision-making process that gives shape to the international constitutional order (5 units)

IL603 Politics of International Law: the basic principles of international relations as a contribution to a better understanding of public international law. Since 1945 the scope of international relations has so widened that one could not possibly cover all aspects, focus on those aspects that deal with the actions of states and other international actors in international law and relations and the changes that have occurred since the end of the Cold War (4 units)

IL656 International Dispute Settlements: the role of dispute settlement and conflict prevention in public international law, adjudication and arbitration; alternative dispute resolution (ADR), i.e. negotiation, mediation, conciliation and good offices; and political mechanisms such as the Organisation for Security and Cooperation in Europe (OSCE) and the African Union (AU). (4 units)

IL716 – Individual Study: independent study (3 units)



SCHOOL OF ENGINEERING

Aerospace Engineering

- **Aerodynamics:** specializes in the design of aerodynamic bodies
- **Aerospace Structures:** specializes in the design of the structure of the aircraft
- **Propulsion and Flight Mechanics:** specializes in the design of the engines and propulsion systems of the aircraft
- **Computation Fluidodynamics:** specializes in the design and optimisation of the fluidodynamics shapes as related to the air flows and turbulences

AE460B Aerospace Engr Application 2 student project (4 units)

AE530 Rocket and Space Propulsion performance of rocket propelled vehicles, rocket propulsion fundamentals (4 units)

EM510 Fin.Elem.Meth.AeroStructure static and dynamic analysis of aerospace structures (4 units)

AE550 Viscous Flow kinematics of fluid motion (4 units)

AE640B Aerosp.Engr.Applications student project (3 units)

AE540 Aircraft Stability and Control II Dynamic stability and control of rigid aircraft, general equations of unsteady motion, stability derivatives (4 units)

EM510 Fin.El.Meth.Aero.Struc.static and dynamic analysis of aerospace structures utilizing finite element methods (4 units)

EM530 Composite Struc.Analysis strength of composite materials lamination theory strength analysis of laminates (4 units)

AE640B Aerosp.Engr.Applications student project (3 units)

AE520 Intermediate Aerospace Flight Mechanics rigid body dynamics with application in spacecraft attitude dynamics (4 units)

AE530 Rocket and Space Propulsion performance of rocket propelled vehicles, rocket propulsion fundamentals (4 units)

AE540 Aircraft Stability and Control II Dynamic stability and control of rigid aircraft, general equations of unsteady motion, stability derivatives (4 units)

AE 500 Fluidodynamic design computer technology in turbulence and flux simulation, noise control etc (5 units)

AE600 Seminar intensive individual study (4 units)

AE643 Advanced Fluid Mechanics Fluid kinematics and kinetics Conservation of mass, energy and momentum applied to Newtonian fluids (4units)

AE686 Advanced Topics in Aerospace Engineering Intensive individual study in aerodynamics (4 units)

AE123 The aerospace Engineer introduction to aerospace engineering (4 units)

AE302 Low Speed Aerodynamics Supersonic flow, two and three dimensional compressible flow,wings in compressible flow,transonic flow.(4 units)

AE303 Experimental Aerodynamics Operating characteristics of subsonic and supersonic wind tunnels. Aerodynamics characteristics of wings and bodies (5 units)

AE310 Aerospace structural analysis methods of static structural analysis of problems in flight of aerospace vehicles (5 units)

AE320 Aerospace Flight Mechanics Two body orbital mechanics including geocentric orbits and interplanetary transfers (5 units)

AE403 Aerospace Engineering Senior Project Design and build an aerospace project, conduct experimental measurements perform analysis of measured data (5 units)

AE410 Aerospace Structural Dynamics Methods of structural dynamics analysis of problems in aerospace vehicles (5 units)

AE430 Aircraft Propulsion Systems Theory and performance characteristics of aircraft propulsion systems (5 units)

AE440 Aircraft stability and control static stability and control, general equations of unsteady motion stability derivatives stability of uncontrolled motion (5 units)

AE460A Aerospace Engineering Applications Projects in aerospace design (4 units)

AE460B Laboratory (4 units)

AE496 Advanced Aerospace Engineering Topics modern developments in engineering (5 units)

AE499 Special Study Individual Study (5 units)

AE 500 Fluidodynamic design computer technology in turbulence and flux simulation (5 units)

AE520 Intermediate Aerospace Flight Mechanics orbit determination techniques general and special perturbations artificial satellites rocket dynamics (5 units)

AE530 Rocket and Space Propulsion performance of rocket propelled vehicles, rocket propulsion fundamentals (4 units)

AE540 Aircraft stability and control Dynamic stability and control of rigid aircraft, general equations of unsteady motion stability derivatives (4 units)

AE600 Seminar intensive individual study (4 units)

AE612 Compressible Fluids Flow theory of flow at supersonic speed, linearized theory, three dimensional wing I steady flight (4 units)

AE640B Student Project (3 units)

AE643 Advanced Fluid Mechanics Fluid kinematics and kinetics Conservation of mass, energy and momentum applied to Newtonian fluids(4 units)

AE686 Advanced Topics in Aerospace Engineering Intensive individual study in aerodynamics (4 units)

EM510 Fin.Elem.Meth.AeroStructure static and dynamic analysis of aerospace structures **4 units**

AE550 Viscous Flow kinematics of fluid motion (4 units)



Civil Engineering

-**Traffic Engineering:** specializes in design of highways, parking, traffic signals and on impact of roads configurations on environment

- **Hydraulic Systems and Transportation Engineering:** specializes in the design of hydraulic and transportation systems

- **Environmental and Sismic Engineering:** specializes in the study and design of antisismic building and their impact on the environment

CE 605 Pre-stressed concrete structure (4 units)

CE 620 Traffic Engineering (4 units)

CE 780 Seminar in Structural Engineering (3 units)

In addition students are required to have successfully completed the following:

CE 481 Transportation Engineering (4 units)

CE482 Highway Engineering (4 units)

CE580 Traffic Engineering (4 units)

CE 540 Coastal and Ocean Engineering (3 units)

CE 555 Water and Wastewater Engineering (3 units)

CE632 Computational Hydraulics and Hydrology (3 units)

CE 636 Sedimentation and River Engineering (4 units)

CE 605 Prestressed Concrete Structures 4 units

CE 607 Dynamics of Structures 3 units

CE 640 Advanced Soil Mechanics 4 units

Course	Semester	Units
CE 100 Introduction to civil engineering : the diverse fields of civil and environmental engineering: structural, geotechnical, water resources, transportation, construction engineering and management		4
CE 121 Computer applications Application of statistical methods to civil and environmental engineering problems in construction, hydrology, water quality, air pollution, and other related areas.		4
CE 218 Statistical methods for civil and environmental engineers Principles of plane surveying. Measurement of horizontal distance, difference in elevation, and angles. Traverse surveys and computations. Horizontal and vertical curves. Principles of stadia. Topographic surveys. Earthwork		4
CE 301 Solid Mechanics Mechanics of solid deformable bodies involving analytical methods for determining strength, stiffness, and stability of load-carrying members		4
CE 302 Solid Mechanics lab Laboratory studies in solid mechanics. Experimental stress analysis. Experimental confirmation of theory.		4
CE 321 Structural Analysis I Analysis of beams, frames, trusses, and three-dimensional frameworks. Influence lines; deflections; introduction to statically indeterminate structures and moment distribution		4
CE 395 Civil Engineering design Civil engineering design process; identification and formulation of design problems; professional responsibilities of designers;		4
CE 400 Civil engineering and Society Role of civil engineers in society. Historical, political, aesthetic, and philosophical perspectives on civil engineering. Contemporary issues involving civil engineering.		4
CE 421 Reinforced Concrete Design Properties and characteristics of reinforced concrete; design of structural components. Introduction to plastic theory and limit design		4
CE 444 Applied Hydraulics Open channel and pressure conduit flow, pumps and turbines, hydroelectric power, flood control, and water law		4
CE 445 Applied Hydrology Basic hydrologic principles, hydrologic measurements, small and midsize catchment hydrology, frequency analysis, regional analysis, reservoir, stream channel and catchment routing, hydrologic design		4
CE 450 Geotechnical Engineering Mechanics of soils as they apply to engineering problems, soil classification, compaction, swelling, consolidation, strength and permeability. Applications to geotechnical and environmental engineering problems		5
CE 455 Foundation Engineering and Earth Retaining Structures Soil mechanics theories applied to design of shallow and deep foundations; lateral pressure of soils, design of retaining walls		5
CE 479 Construction Materials Selection, design and control of		5

mixes of portland cement and asphalt concrete. Properties of these and other materials used in construction.	
CE 481 Transportation Engineering Physical design of transportation facilities, traffic analysis and control for different modes, planning and demand analysis, introduction to environmental impacts of transportation systems and intelligent transportation systems	4
CE 482 Highway Engineering Highway design, facility sizing, geometric design, drainage, earthwork, pavement design, traffic control devices, safety and environmental considerations.	4
	3
CE 500 Special Study Individual study in the area of civil engineering	
CE 521 Structural Analysis Analysis of statically indeterminate structures by virtual work, treatment of slope deflection, moment distribution, arch analysis secondary stresses in trusses	5
CE 525 Design of steel structures Mechanical behavior of structural steel. Design of steel beams, girders, columns and members subjected to combined stresses. Design of various types of connections of steel structures	5
CE 526 Masonry Structures design Analysis and design of masonry beams, retaining walls, sheer walls, bearing walls and structures	5
CE 530 Open channel Hydraulics Principles of open channel flow, analysis and problems of critical, uniform, gradually-varied and rapidly varied flows design and environmental problems, computer simulations.	5
CE 580 Traffic Engineering Design Sizing and configuration of highway facilities based on capacity analysis. Traffic signal design, impact and mitigation studies, parking and safety design	5

CE540 Coastal and Ocean Engineering (acceptable toward Master's degree) Types, design feature and methods of construction of coastal facilities and offshore structures	4
CE555 Water and Wastewater Engineering Water and wastewater, physical, chemical and biological methods of treatment	4
CE596 Advanced Engineering topics Modern developments in civil engineering	3
CE605 Prestressed Concrete Structures Fundamental concepts of prestressed concrete theory	4
CE607 Dynamics of structures Dynamic disturbances, structures with variable degrees of freedom	4
CE608 Earthquake Engineering elements of seismology methods of analysis for earthquake loads procedures and code provision for the design of earthquake-resistant structures	4
CE610 Finite Elements Analysis of Structures Various types of finite elements analysis and design of isotropic and orthotropic plates and shells, deep beams and sheer walls	4
CE620 Traffic Engineering traffic characteristics and studies	4
CE632 Computational Hydraulics and Hydrology computational methods applied to hydraulics and hydrology	3
CE634 Surface Water Hydrology Hydrologic systems physical hydrology kinematic wave theory diffusion and dynamics wave theory	4
CE 640 Sedimentation and River Engineering hydraulics of sediment transport and related erosion and sedimentation problems in natural streams	4
CE640 Advanced Soil Mechanics advanced theories of soil mechanics and their applications to design	4
CE 641 Advanced Foundation Engineering Advanced theories of soil bearing capacity and stress distribution in soil	4
CE780 Seminar in Structural Engineering intensive study in structural engineering	2
CE781 Seminar in transportation engineering intensive study in transportation engineering	2



Electrical Engineering

EE520 Feedback Control: Systems feedback compensation advanced compensation techniques signal flow Theory state-variable techniques (4 units)

EE530 Transistor Circuit Analysis: Analysis and design of transistor voltage and power amplifier circuits by duality and matrix methods (5 units)

EE631 Integrated circuits fabrication methods logic gates, multivibrators medium-large scale integration techniques and devices. Linear integrated circuits (4 units)

EE596 Advanced electrical engineering topics individual study (4 units)

Computer Engineering

EE530 Transistor Circuit Analysis Analysis and design of transistor voltage and power amplifier circuits by duality and matrix methods (5 units)

EE503 Computer Hardware digital arithmetic sequential networks integrated circuits components microprocessor based systems (4 units)

EE670 Microprogramming Fundamentals of microprogramming and read only storage technology as related to design of computers (4 units)

EE675 Advanced Microprocessors program development, circuit design, parity and residue checking of computer systems and subsystems (3 units)

EE679 Real Time Software Engineering principles of real time programming and software engineering for microprocessor systems (4 units)

EE200 **Physics** for electrical Engineers

EM202 **Intro to Electronics** circuits, transistors, mismatched devices

EE 204 Principles of Electrical Engineering semiconductor devices, and applications, energy conversions

EE 210 Circuit Analysis circuit analysis by reduction methods, source transformations phasor diagrams, computer programming

EM230 Intro to electronic Devices Recent developments in electronic devices

Upper Division Courses	Semester units
EE310 Circuit Analysis II electronic circuits, instrumentation and electronic measuring devices	4
EE330 Fundamentals of Engineering electronics application of diodes, analysis and design of rectifiers, filters and simple signal amplifiers	5
AE331 Electronic Engineering Lab	4
EE340 Electronic and Magnetic Fields Electrostatic and magnetic field theory using vector notation	5
EE380 Electrical Energy Conversion Magnetic circuits, synchronous machines and DC machines	5
EE 381 Electrical Conversion Theory and performance characteristics of aircraft propulsion systems	4
EE410 Signals discrete signals and systems filtering sampling a Z transform techniques	5
EE503 Computer Hardware digital arithmetic sequential networks integrated circuits components microprocessor based systems	4
EE520 Feedback Control Systems feedback compensation advanced compensation techniques signal flow Theory state-variable techniques	4
EE530 Transistor Circuit Analysis Analysis and design of transistor voltage and power amplifier circuits by duality and matrix methods	5
EE540 Microwave Communications applications of Maxwell equations to wave propagation skin effect, circuit impedance elements vector potential	5
EE541 Electro Optics optical –electronic devices and systems wave beams light matter quantum interactions incoherent and laser light sources modulators and detectors	5
EE553 Stochastic Signals random signals, correlation functions power spectral densities the Gaussian process narrow band processes	5
EE558 Digital communication systems foundations and interrelationships of subsystems in modern digital communication systems	4
EE576 Microprocessors Systems Development design of	4

microprocessors based systems using modern development systems. Hardware and software	
EE596 Advanced electrical engineering topics individual study	4
EE631 Integrated circuits fabrication methods logic gates, multivibrators medium-large scale integration techniques and devices. Linear integrated circuits	4
EE640 Quantum Electronics quantum mechanics for engineers concerned with its application to solid state devices	4
EE670 Microprogramming Fundamentals of microprogramming and read only storage technology as related to design of computers	4
EE675 Advanced Microprocessors program development, circuit design, parity and residue checking of computer systems and subsystems	3
EE679 Real Time Software Engineering principles of real time programming and software engineering for microprocessor systems	4
EE680 Computer methods in Advanced Power System Analysis computer modelling and analysis techniques applied to large power systems	4

Environmental Engineering

- **Environmental Engineering of Industrial waste:** *specialized in the management and design of structures for the prevention and control of industrial waste*

- **Environmental Engineering of Air and Water Pollution:** *specialized in the management of environmental organic and non-organic pollution and the treatment of its consequences*

- **Impact Environmental Engineering:** *studies the impact of urbanization and industrialization of the environment and design solutions to reduce and minimize impact*

Env 554 Process Fundamentals of Environmental Systems Equilibrium and kinetics of chemical and biological reactions of environmental systems. (4 units)

Env 637 Process design for industrial Waste treatment Process design of physical chemical and biological treatment methods for in-plant treatment of industrial waste .(5 units)

Env696 Advanced topics in Environmental Engineering Intensive study in specific areas. (5 units)

CE Civil engineering and Society Role of civil engineers in society. Historical, political, aesthetic, and philosophical perspectives on civil engineering. Contemporary issues involving civil engineering.(5 units)

Specific requirement for the degree: the student program, prepared in conference with and approved by the graduate advisor, must include a minimum of 28 units between lower and upper level courses including:

Env 554 Process Fundamentals of Environmental Systems Equilibrium and kinetics of chemical and biological reactions of environmental systems (4 units)

Env555 Water and Wastewater Engineering water and wastewater. Physical, chemical and biological methods of treatment. Advanced water treatment processes (5 units)

Env645 Aquatic Chemistry: Chemistry of natural and polluted water process chemistry for water and wastewater treatment (5 units)

Env648 Microbiological Principles of Environmental Engineering Relationships and significance of micro-organisms for organic water decomposition mineral transformation and environment quality (5 units)

Specific requirement for the degree: the student program, prepared in conference with and approved by the graduate advisor, must include a minimum of 28 units between lower and upper level courses among which:

Env 558 Solid and Hazardous Waste Engineering Municipal solid and hazardous solid wastes from an environmental engineering perspective including waste minimization and recycling (5 units)

CE 450 Geotechnical Engineering Mechanics of soils as they apply to engineering problems, soil classification, compaction, swelling, consolidation, strength and permeability. Applications to geotechnical and environmental engineering problems (4 units)

CE455 Foundation Engineering and Earth Retaining Structures Soil mechanics theories applied to design of shallow and deep foundations; lateral pressure of soils, design of retaining walls (4 units)

CE Civil engineering and Society Role of Civil Engineers in Society. Historical, political, aesthetic, and philosophical perspectives on civil engineering. Contemporary issues involving civil engineering. (5 units)

Semester Units

BIO200 Intro to Biology classification and study of organisms from unicellular to complex, of the animal and vegetal world.	4
BIO202 Cell Physiology study of cell structures, metabolism and functions	4
BIO230 Intro to Microbiology study of micro-organisms of air, soil and water	4
Env 101 Environmental Engineering Seminar breadth and depth of environmental engineering field	4
Env 296 Experimental Topics Selected topics	3
Env 320 Designing solutions for Environmental Problems Human interaction with the land, water and air environment; environmental pollution	4
Env496 Advanced Environmental Engineering Modern developments in environmental engineering	4
Env 499 Special study Individual study	3
Upper Division Courses also acceptable for advanced degrees	
Env553 Environmental Engineering Laboratory	3
Env 554 Process Fundamentals of Environmental Systems Equilibrium and kinetics of chemical and biological reactions of environmental systems	5
Env555 Water and Wastewater Engineering water and wastewater. Physical, chemical and biological methods of treatment. Advanced water treatment processes	4
Env 558 Solid and Hazardous Waste Engineering Municipal solid and hazardous solid wastes from an environmental engineering perspective including waste minimization and recycling	5
Env 637 Process design for industrial Waste treatment Process design of physical chemical and biological treatment methods for in-plant treatment of industrial waste	4
Env645 Aquatic Chemistry: Chemistry of natural and polluted water process chemistry for water and wastewater treatment	4
Env648 Microbiological Principles of Environmental Engineering Relationships and significance of microorganisms for organic water decomposition mineral transformation and environment quality	5
Env696 Advanced topics in Environmental Engineering Intensive study in specific areas	3
CE 445 Applied Hydrology Basic hydrologic principles, hydrologic measurements, small and midsize catchment hydrology, frequency analysis, regional analysis, reservoir, stream channel and catchment routing, hydrologic design	4
CE 450 Geo-technical Engineering Mechanics of soils as they apply to engineering problems, soil classification, compaction, swelling, consolidation, strength and permeability. Applications to geo-technical and environmental engineering problems	4

CE455 Foundation Engineering and Earth Retaining Structures Soil mechanics theories applied to design of shallow and deep foundations; lateral pressure of soils, design of retaining walls	4
CE 444 Applied Hydraulics Open channel and pressure conduit flow, pumps and turbines, hydroelectric power, flood control, and water law	4
CE Civil Engineering and Society Role of civil engineers in society. Historical, political, aesthetic, and philosophical perspectives on civil engineering. Contemporary issues involving civil engineering.	3



Mechanical Engineering

Mechanical Engineering

Geo-mechanics Engineering: *studies of the relationship between the geologic processes and the work of humans such as oil extraction, mining activities etc*

EM614 Engineering Design (3 units)

EM631 Fluid Power and Control Systems (5 units)

EM651 Analytical Thermodynamics (4 units)

EM645 Mechanical Metallurgy for Engineers (5 units)

EM645 Mechanical Metallurgy for Engineers (5 units)

EMG510 Petroleum Geophysics (5 units)

EMG 511 Mining Geophysics (5 units)

EMG550 Engineering Geology (5 units)

Semester Units

EM 230 Dynamics kinetics of particles central force motion system of particles work and energy impulse and momentum moments and products of inertia Euler'equations of motions	5
EM296 Experimental Topics Selected topics	3
EM300 Intro to Machine Design Design of mechanical methods	4
EM340 Fluid Mechanics fluid static laminar and turbulent flow of liquids and gases in pipes	5
EM341 Fluid mechanics lab	3
EM496 Advanced Engineering Mechanics Topics modern developments in engineering mechanics	4

EM 499 Special Study Individual study	5
EM510 Advanced Machine Design application of advanced topics in strength of materials, to the design of mechanical elements.	5
EM614 Engineering Design: Analytical Methods classical optimisation, techniques design decision theory reliability in design	5
EM631 Fluid Power and Control Systems Analysis of dynamic performances of physical systems such as pneumatic hydraulic and hot-gas	5
EM632 Advanced Topics in Automatic Controls Analysis and synthesis of sample data systems. State space analysis of multivariable systems optimal control systems	5
EM645 Mechanical Metallurgy for Engineers Fundamentals in plastic deformation of crystalline solids elementary theory of statics and dynamics of dislocations deformation, fracture and metallurgical variables on mechanical properties	4
EM651 Analytical Thermodynamics Advanced concepts of macroscopic thermodynamics Application of thermodynamics to special systems	4
EM696 Advanced topics in Mechanical Engineering Intensive study in specific areas	3
EMG505 Photogeology Geologic interpretation of aerial photographs elementary stereoscopy and stereometry applied to structural and stratigraphic problems	5
EMG510 Petroleum Geophysics Airborne, surface and bore hole geophysical techniques used in oil exploration	5
EMG 511 Mining Geophysics Airborne, surface and bore hole geophysical techniques used for delineation of ore bodies	5
EMG550 Engineering geology relationship between geologic processes and work of humans	4
EMG651 Numerical Modeling of Ground Water Flow direct and iterative solutions to simultaneous equations calibration verification and application of numerical models to analyze ground water hydrologic problems	4



Naval Engineering

- **Race Boats design:** *specializes in the design of race boat and motor yacht used in competitions)*
- **Vessels Design:** *specializes in the design of major vessels (aircraft carrier cruise ships etc*
- **Small Craft Design:** *specializes in the design of smaller crafts such as leisure family boats, sail boats etc*

NE 499 History of America's Cup (2 units)

NE 510 Marine Structures II (5 units)

NE 575 Sailing Craft Design (5 units)

NE630 Hull & appendages design (5 units)

NE 510 Marine Structures II (5 units)

NE 525 Marine Dynamics II (5 units)

NE600 Boundary Layers in Internal Flows (5 units)

NE 500 Intro to CFD (5 units)

NE 510 Marine Structures II (5 units)

NE 560 Small Craft Design (4 units)

NE620 Senior Project (5 units)

	Semester Units
NE 250, Marine Design	5
NE 260, Marine Systems Manufacturing	5
NE 350 Marine Structures 1	5
NE 360 Marine Hydrodynamics I	5
NE 365 Marine Hydrodynamics II	4
NE 400 Marine Engineering I	5
NE 415 Marine Electrical Engineering	4
NE 430 Marine Dynamics I	5
Upper Division Courses also Acceptable for advanced degrees	
NE 450 Ship Design	4
NE 467 Design Project	5
NE 470 Design Reporting	3
NE 499 History of America's Cup	2
NE 500 Intro to CFD	5
NE 510 Marine Structures II	5
NE 525 Marine Dynamics II	5
NE 560 Small Craft Design	4
NE 575 Sailing Craft Design	4
NE 590 Marine System Production Strategy	5
NE600 Boundary Layers in Internal Flows	5
NE620 Senior Project	5
NE630 Hull & appendages design	5
NE640 Computer aided design	5



SCHOOL OF PUBLIC ADMINISTRATION AND URBAN STUDIES

Public Administration

PA 510 Intergovernmental Relations in the USA: constitutional, political and administrative characteristics of American federalism, including regionalism, interstate compacts and grants-in-aid (4 units)

CJ 510 Contemporary Issues in Law Enforcement Administration: assessment of problems confronting administrators of law enforcement agencies and of recent efforts to enhance the capability of agencies to control criminal activity (4 units)

CJ 520 Prosecutorial Function in Administration of Justice: analysis of prosecutor's function at local, state and federal levels (4 units)

PA 512 The Metropolitan Area: problems of government and administration arising from population patterns (4 units)

PA 520 Decision Making in the Urban Community: processes of decision making in the management of urban communities (4 units)

PA 530 Negotiation and Bargaining in the Public Service: specific issues such as strategies, the effects of threat, the physical setting, use of a third-party observer and theories of advocacy (4 units)

PA 540 Public Administration Systems Analysis: systems and organization analysis: work standards and units, procedures analysis, administrative planning (4 units)

PA 550 Budgetary and Financial Administration in the Public Sector: management trends in the public sector financial administration (4 units)

PA 600 Scope of Public Administration: the development of public administration as an academic discipline, a systematic evaluation of the rise and operations of large-scale public bureaucracies (3 units)

PA 604 Methods of Analysis in Public and Urban Affairs: research design for problems and cases in public affairs (4units)

MNG 611 Organization Behavior and Human Resources: theories, practice and legal consideration of dealing with people in organizations (4 units)

PA 620 Seminar in Management of Urban Governments: selected problems in the management of urban governments (3 units)

PA 621 Seminar in the Metropolitan Area: selected problems in the government and administration of the world's major metropolitan areas (3 units)

PA 630 Seminar in Public Personnel Administration: analysis of selected problems in personnel administration, special emphasis on organizational development and consultation skills (3 units)

PA 633 Collective Bargaining in the Public Sector: simulation of public sector collective bargaining ;the facets of the bargaining process including data collection proposal preparation , formal/informal negotiation.(4 units)

PA 640 Seminar in Public Administration: selected topics (3 units)

PA 643 Seminar in Administrative Behavior: intrapersonal, interpersonal and group development knowledge (3 units)

PA 650 Seminar in Public Financial Management: problems in the administration and budgeting of public revenues (3 units)

PA 660 Administration and Public Policy Development: social political and administrative problems involved in governmental program development and change.(4 units)



Real Estate Management

Real Estate Sciences

REM 500 Real Estate Marketing I : Principles of Marketing as applied to the real estate sector (4 units)

REM 501 Real Estate Marketing II: Advanced real estate marketing (4 units)

REM 503 Market Research and Analysis: Theory and techniques of market research and analysis (5 units)

REM 506 Marketing Principles for Real Estate Sales : use of marketing techniques to manage a marketing and sales operation, analysis of relationships and behavior of all those involved in the selling and buying processes (5 units)

REM 520 Communication : effective communication techniques as applied to the real estate sector (3 units)

REM 550 Web Design: the design of an internet site for sale of real estate services (4 units)

REM 570 Managing the Real Estate Business: planning, organization and development of a real estate business (4 units)

REM 600 Civil and Tax Law in Real Estate : laws, regulation and taxation policies as applied to real estate (3 units)

CE 607 Dynamics of Structures: Dynamic disturbances, structures with variable degrees of freedom (3 units)

ACC 610 Managerial accountancy: special problem areas in the reporting of corporate assets and equities (4 units)

ACC 644 Seminar in Federal Estate and Gift Tax: estate and Gift Tax problems, income taxation of Trusts and estates (4 units)

CP 710 Seminar in Theories of Urban Design: perspectives and methodology of contemporary urban design and its contribution toward improving the quality of the physical, social and economic environment (4 units)

CP 720 Seminar in Land Use and Environmental Law: cases and studies in zoning and environmental assessment (4 units)

REM 725 Safety at the Workplace: safety issues as regulated by current laws (3 units)

REM 760 Information Systems, Data Safety and Digital Signatures: the use of information technology in the management of real estate business (4 units)

REM 798 Special Study: individual study on real estate topics (3 units)

Urban (City) Planning

CP 610 Seminar in Urban Planning: introductory seminar to the Master of City Planning Program, Focusing on the planner's perspective of urban problems and goal formation (4 units)

CP 620 Seminar in Urban Planning: methodology :procedures and analytical techniques for advanced urban planning analysis (4 units)

CP 625 Quantitative Techniques in Urban Planning: contemporary techniques and methodologies of planning analysis (4 units)

CP 630 Seminar in Urban Planning Implementation : analysis of the content and function of zoning, subdivision regulation, codes, capital budgeting, urban renewal, model cities and other implementation methods and programs

CP 640 Seminar in Urban Planning Theory: alternative theories of planning and organization of the planning function (5 units)

CP 650 Seminar in Urban Theory: study of the various empirically and normatively based theories of the city and urbanization process, with emphasis on conceptual foundations, relationship to government structure, decision making, and ideological and ethical orientation (4 units)

CP 665 Seminar in Urban and Regional Planning Analysis: theories and techniques of urban and regional planning analysis (4 units)

CP 670 History of Urban Planning: history of urban development and of the field of urban planning (4 units)

CP 700 Urban Design and Land Use Planning Studio: laboratory course concerned with graphic expression, principles of land use planning, land development and urban design. (4 units)

CP 710 Seminar in Theories of Urban Design: perspectives and methodology of contemporary urban design and its contribution toward improving the quality of the physical, social and economic environment (4 units)

CP 720 Seminar in Land Use and Environmental Law: cases and studies in zoning and environmental assessment (4 units)

CP 796 Research in Urban Planning : research in one of the areas of urban planning (4 units)



SCHOOL OF HUMANITIES

Sociology
Social Psychology
Behavioral Psychology
Counseling: Marriage and Family
Counseling: Child Counselling
Counseling: School Psychology Credential

MS10 Statistics (4 units)

S0400 Intro to Sociology (3 units)

S0430 Multiethnic society (4 units)

S0500 Cultural Geography (3 units)

MS10 Statistics (4 units)

PSY450 History of Psychology (3 units)

PSY460 Intro to Social Psychology (4 units)

MS10 Statistics (4 units)

CL 610 Determinants of Human Behavior I and II (4 units each)

M.A. in Counseling (Marriage, Family and child): satisfactorily complete a minimum of 32 units in the graduate catalog, including the following:

MS10 Statistics (4 units)

CL 585 A Human Sexuality for Counselors (4 units)

CL 585 B Dynamics of Adjustment behavior (4 units)

CL 642 Individual Appraisal of Learning Characteristics (4 units)

CL 685 Theories of marriage and Family Counseling (4 units)

M.A. in Counseling (School Credential): satisfactorily complete a minimum of 32 units in the graduate catalog, including the following:

MS10 Statistics (4 units)

CL 585 B Dynamics of Adjustment behavior (4 units)

CL 620 Guidance Service in Public Education (4 units)

M.A. in Career Counseling : satisfactorily complete a minimum of 32 units in the graduate catalog, including the following:

MS10 Statistics (4 units)

PSY620 Work Psychology (4 units)

CL 645 Appraisal and Career Development (4 units)

S0400 Intro to Sociology: the elements of society: social culture, socialization, social interaction, stratification and social classes, inequalities, gender roles, social changes (4 units)

S0430 Multiethnic Society: the ethnic groups in the US, cultural diversity, multiculturalism and its degenerations, ethnic relationships and their future (3 units)

S0500 Cultural Geography: geographic schools, demography and socio-economic tracts of populations, ethnicity and its relation to government of territories (4 units)

S0600 Deviance and Criminality: definition of deviance, types of deviance, the social control different theories, future of deviances and criminology theories (5 units)

S0630 History of Sociology: the cultural matrix, liberalism, socialism, historic materialism, positivism, relationship between industrial society and sociology, the industrial revolution, capitalism (5 units)

S0650 Social Research: basic concepts, theories and quantitative research, concepts and variables, the query, definition of observation fields, sampling, interview, data analysis (5 units)

S0700 Demography : population structure, demographic components variations, birth rate variations, mortality variations and their significance, demographic growth. (4 units)

S0730 The Institutions: main institutions, the family, religion, society and economy, the political systems (4 units)

PSY450 History of Psychology: the evolution in the last century, the scientific revolution, intro on biography and work of main psychologists of the 20th century, introduction to cognitive science (4 units)

PSY460 Intro to Social Psychology : intro to the thought of major social psychologists and on group theories, paradigms (4 units)

PSY500 Social Psychology: cognitive dissonance, aggressive behavior, strategies of cooperative behavior (4 units)

PSY590 Theories and application of testing techniques: the main theories underlining tests formulation and application, practicing in the use of psycho-social tests (3units)

PSY620 Work Psychology: individual, team and organizational effectiveness at work, design, implementation and evaluation of methods of promoting effectiveness, innovation and well-being at work (4 units)

PSY 622 Seminar in Organizational Psychology: applications of psychological principles and methods of investigation to problems of industrial relations and motivation of employees (4 units)

PSY 656 Seminar in Behavior Psychology: application of methodology and methods of investigation to behavioral problems(4 units)

CL 585 A Human Sexuality for Counselors: dimensions of human sexuality that bear directly on the role and function of helping professions (4 units)

CL 585 B Dynamics of Adjustment Behavior: philosophies and dynamics of adjustment behavior, patterns and types of abnormal behavior, and treatment modalities (4 units)

CL 610 I Determinants of Human Behavior : implications of theory and research in behavioural sciences for the understanding of human behavior (4 units)

CL 610 II Determinants of Human Behavior I : continuation of CL 610 I (4 units)

CL 615 Seminar in Multicultural Dimensions in Counseling: issues, insights and techniques for improving effectiveness in working with culturally different population (4 units)

CL 620 Guidance Services in Public Education: historical, philosophical and legal bases of pupil personnel services (4 units)

CL 621 Introduction to School Psychology : introduction to school psychology: roles (assessing counseling, consulting), skills (innovative techniques, consultation), and issues (modifying the system, multicultural impact) (4 units)

CL 640 Theory and Process of Appraisal: measurement theory and procedures, including interpretation of test results (3 units)

CL 642 I Individual Appraisal of Learning Characteristics: administration and interpretation of instruments and techniques for assessing learning characteristics of children (4 units)

CL 642 II Individual Appraisal of Learning Characteristics: continuation of CL 642 I (4 units)

CL 645 Appraisal and Career Development: measurement theory, interpretation of test results. Vocational choice theory, occupational and educational information in career planning (4 units)

CL 650 Theory and process of Career Development: vocational choice theory, occupational and educational materials used in career planning (4 units)

CL 651 Counseling for Sex Roles in Transition: development of counselling skills in career development, educational, psychological and social forces affecting contemporary women and men, impact of these forces upon relationships between the sexes and personal definitions of femininity-masculinity (5 units)

CL 685 Theories of Marriage and Family Counseling : counselling modalities, family intervention strategies and techniques of co-counseling in marriage and family therapy (4 units)



SCHOOL OF FINE ARTS

Fine Arts degree Interior Design

:

MA500 Advanced Drawing (3 units)

MA501 Professional Orientation in the Arts (3 units)

MA503 Life Drawing and Painting (3units)

MA516 Advanced Sculpture (3 units)

ID350 Fundamentals of Interior Design (4 units)

ID400 Geometric Design (4 units)

ID420 Intro to Art History (3 units)

MA500 Advanced Drawing : drawing emphasizing the qualitative aspect of visual subject matter (3 units)

MA501 Professional Orientation in the Arts :conditions met in professional art world as well as opportunities available. Exhibitors, marketing systems, legal and tax responsibilities, public and private collections (4 units)

MA503 Life Drawing and Painting drawing and painting from nude and costumed models(3 units)

MA505 Advanced Waterbase Media :composition in watercolor and related media (3 units)

MA506 Design and Composition: structure in picture making (3 units)

MA509 Relief Printmaking: woodcut, wood engraving, gessocut, linoleum, collagraph processes (3 units)

MA511 Lithography Printmaking in Color: advanced creative lithography printmaking, emphasis on fine print quality in color process and color technology unique to this medium. (3units)

MA512 Serigraphy: techniques of reproducing original prints by means of the silkscreen process (3 units)

MA516 Advanced Sculpture individual investigations into sculpture ideas, methods and materials (3 units)

MA609 Printmaking: advanced creative work in selected printmaking media based upon the analysis of the history and philosophies of printmaking (3 units)

MA623 Advanced Furniture Design: problems in the design and construction of furniture (3 units)

MA625 Crafts: advanced creative work in selected craft media (3 units)

MA631 Seminar in Jewelry and Metalwork: problems in the design and execution of work in precious metals (3 units)

MA641 Graphic Communication: advanced individual study in graphic design (3 units)

MA650 Creative Environmental Design. Creative work in interior design, architecture and civic design (4 units)

MA 710 Studio Art Experience: independent research in specified areas (2 units)

MA760 Seminar in Twentieth Century Art: visual arts and art criticism since 1900 (3 units)

MA761 Seminar in American Art: problems in the development of art styles or important artists in America (3 units)

MA767 Seminar in Art of Native America, Africa and Oceania: studies in problems of the development of art styles, concepts, imagery and artists within one of the areas (3 units)

MA771 Seminar in Medieval Art: studies in problems of the development of art styles or important artists within broad limits of medieval art (3 units)

MA773 Seminar in Renaissance Art: studies in problems of development of art styles or important artists within broad limits of renaissance art (3 units)

MA775 Seminar in Baroque and Rococo Art: studies in problems of development of art styles or important artists within broad limits of baroque and rococo art (3 units)

ID350 Fundamentals of Interior Design: intro to the study of internal spaces, simulations (4 units)

ID400 Geometric Design :perspective and assonometry, intro to 3D drawing (4 units)

ID420 Intro to Art History: history of different architectural styles (3 units)

ID550 Computer Aided Drawing (CAD) use of the program (3 units)

ID650 Division of Internal Spaces: simulation of a living project and design of interior furnishing(4 units)

ID721 Techniques of Illumination: temperature and colors of lights, direct, indirect diffuse lights (3 units)

ID796 Special Study: Independent Project (2 units)



SCHOOL OF HEALTH SCIENCES

Science degree in Public Health
Science degree in Environmental Health
Naturopathy

PH 601 Epidemiology (3 units)

PH602 Biostatistics (3 units)

PH603 Behavioral and Social Sciences in Public Health (3 units)

PH602 Biostatistics (3 units)

PH632 Air Quality (3 units)

PH 638A Toxicology (3 units)

PH638B Methods in Toxicity testing (3 units)

PH 601 Epidemiology :distribution and determination of diseases, role of epidemiology in public health (3units)

PH 602 Biostatistics: concepts of statistical reasoning applied to public health problems, design (3 units)

PH 603 Behavioral and Social Science in Public Health: role of psychological, social and environmental variables in health and illness.(3 units)

PH 604 Environmental Determinants of Human Health: environmental determinants and their influence on human health. Biological, chemical and physical factors which affect the health of the community (4 units)

PH 621 Epidemiology of Infectious Diseases: utilizing selected infectious diseases and environmental settings, provides scientific background on which epidemiological investigations and control measures are based. (4 units)

PH 632 Air Quality: theory and application of sample analysis, manual and automated means (3units)

PH 638A Toxicology: essentials of industrial toxins measurements, impact of biological systems and mechanisms for control. (3 units)

PH 638B Methods in Toxicity Testing: laboratory methods used in evaluation of chemicals for potential human toxicity (3 units)

PH 641 Human Care Delivery Systems: National health care systems, topics include health personnel, facilities, organization and funding of health care.(4 units)

PH644 Health Services Management: decision making, change implementation, and control processes in health care organizations. (4 units)

PH646 Legal Aspects of Health Care: philosophy and application of law as it relates to the hospital and other health care facilities (4 units)

PH 649 Public Health Data Organization and Management: sources of morbidity, mortality, demographic and health services utilizer data (4 units)

PH 721 Environmental Epidemiology: uses of epidemiology methods in study of environmental hazards affecting community health (4 units)

PH 731 Environmental and Occupational Health Policy: current issues in environmental and occupational health, including risk assessment, policy development and program management (5 units)

PH 732 Principles of Industrial Hygiene: fundamentals and rationale for recognition evaluation and control of hazardous chemical, physical and biological agents in the workplace (5 units)

NT 600 Phytotherapy: fundamentals of flower therapy, classification, rescue remedy, vibrational therapy (6 units)

NT 700 Essences: definition, preparation methods, chemical composition, pharmacokinetics, toxicology (6 units)

NT 730 Principles of Ayurvedic Medicine: introduction, philosophy and categories, the Dosha and sub Dosha (6 units)units)

NT 740 Cristal Therapy: introduction to the mineral stones and crystals, analytical therapy, practical applications (5 units)

NT 760 Homeopathy : the substances employed, utilizations and dilutions, pharmaceuticals using homeopathic remedies, complementary homeopathic therapies (5 units)

NT 761 Iridology: history of iridology, eye embryology and anatomy, iridology topography, iridology semeiotic, interpretation of signs (6 units)



SCHOOL OF ARTS AND LETTERS

Department of Anthropology

Anthropology:

ANT 500 Primate Social Behavior: Analysis of models of primate socialization. Development of social behavior with emphasis on communication, group structure, aggression and sex. (3 units)

ANT 501 Paleoanthropology: Fossil evidence for human evolution.(3 units)

ANT 502 Microevolution: The evolution of human populations over a short period of time (3 units)

ANT 503 Human Variation: Morphological, physiological and genetic aspects of human variability (3 units)

ANT 504 Primate Anatomy: Primate anatomy both regional and systemic, including skeletal, cardiovascular and digestive systems of primates (3 units)

ANT 505 Human Osteology: Identification of individual bones and teeth: sex, age, and racial variation (3 units)

ANT 506 Physical Anthropology of the Living: Theory and practice of techniques in measurement and description of biological variation in modern populations (3 units)

ANT 507 Genetic Markers and Anthropology: Use of genetic markers in the study of human population (3 units)

ANT 508 Medical Anthropology : Evolution and ecology of disease, medical beliefs and practices in non-Western culture (3 units)

ANT 520 Ethnological Field Methods: The problems and techniques of obtaining data in ethnological and social anthropological field work (3 units)

ANT 532 Culture and Personality: The relationship of individual personality to culture (3 units)

ANT 562 Ethnoarchaeology: Theoretical perspective and method for analyzing contemporary societies in order to acquire archaeological insight of behavioral patterns (3 units)

ANT 582 Regional Anthropology: In-depth study of major geographical region of the world such as Africa, the Arctic, East Asia, Europe, Latin America, the Middle East, North America, Oceania or South Asia (3 units)

ANT 600 Seminar: Intensive study in advanced anthropology topics (3 units)

ANT 601 Seminar in Physical Anthropology: History and theory in physical anthropology stressing the significant literature on such topics as functional anatomy, human paleontology, population genetics, and primatology (3 units)

ANT 602 Seminar in Archaeology: History and theory in archaeological data collection, analysis and interpretation(3 units)

ANT 603 Seminar in Ethnology: History and theory in ethnology. (3 units)

ANT 604 Seminar in Linguistics: History and theory of linguistics (3 units)

ANT 620 Seminar in Regional Anthropology: Study of a major world region (can be repeated to a maximum of 6 units)

ANT 621 Seminar in Topical Anthropology: Study of a major subdiscipline of anthropology (can be repeated to a maximum of 6 units)

ANT 795 Internship in Anthropology: Students will be assigned to government and private agency in which anthropological theories can be applied (maximum credit 9 units)

ANT 797 Research: Independent investigation in the general field of the thesis (3 units)



Political Science: Political Science and Diplomacy

Political Marketing and Communication

S0 430 Multiethnic Society: the ethnic groups in the US, cultural diversity, multiculturalism and its degenerations, ethnic relationships and their future (3 units)

S0 500 Cultural Geography: geographic schools, demography and socio-economic tracts of populations, ethnicity and its relation to government of territories (4 units)

MC 500 Current Problems in Mass communication: forces affecting American mass communication today (3units)

MC 502 Law of Mass Communication: libel, invasion of privacy, censorship, contempt of court, constitutional guarantees affecting print and broadcast media (3 units)

MC 509 Research Methods in Mass Communication: investigation tools and evaluation methods of mass media research (3 units)

PS 522 Urban Politics: the processes by which social conflicts in American Urban Areas are represented and regulated (3 units)

PS 523 Community Political Analysis: community power structure, analysis of policy alternatives, strategies of community development (3 units)

PS 530 Political Parties: the political party as a part of the process of government, party organization and activities, nominating and campaign methods (3 units)

PS 531 Interest Groups and Political Movements: pressure group activity, lobbies, mass movements, factor that explain origins and motivation of group behavior: votes, money information, protests as political result. (4 units)

PS 537 The Politics of Bureaucracy: an analysis of the bureaucracy as an actor in the political system (4 units)

PS 555 Comparative Political Systems: an examination of selected political and government systems for purposes of comparative studies (3 units)

PS 566 Political Change in Latin America: general patterns of politics and political development in Latin America (3 units)

PS 567 Political Systems of Latin America: domestic and international politics of selected Latin American states (3 units)

PS 568 Political Change in East Europe: general patterns of politics and political development in the former Soviet bloc countries (3 units)

PS 577 Principles of International Law: the function of law in the international community (4 units)

PS 630 Seminar in Politics: process by which individuals and groups make demands upon political decision makers (3units)

PS 661 Seminar in the Political Systems of the Developing Nations: theoretical analysis of political development, modernization and industrialization in the emerging nations (3 units)

PS 675 Seminar in International Relations: (maximum credit 6 units)

S0700 Demography : population structure, demographic components variations, birth rate variations, mortality variations and their significance, demographic growth. (4 units)

S0 730 The Institutions: main institutions, the family, religion, society and economy, the political systems (4 units)

PS 795 Problem Analysis: analytical treatment of selected problems in political sciences (3 units)

PS 797 Research in Political Sciences: research in political theory, political parties, comparative government, international relations, public law or American government (3 units)

PS 797 Special Study : individual study (maximum credit 6 units)



SCHOOL OF SCIENCE

Geology

GEO 502 Geology of North America: a regional analysis of North American geology, its structural, stratigraphic and tectonic patterns and hypothesis concerning their origin and evolution (3 units)

GEO 505 Photogeology: geological interpretation of aerial photographs, elementary stereoscopy and stereometry applied to structural and stratigraphic problems.(3 units)

GEO 506 Paleontology: principles and methods exemplified by a study of the morphology classification, habit and geologic significance of fossil invertebrates (3 units)

GEO 507 Stratigraphy: stratigraphic principles and practices (3 units)

GEO 508 Field Geology: geological investigation of an assigned area with preparation of an individual report and a geological map (4 units)

GEO 510 Petroleum Geophysics: airborne, surface, and bore-hole geophysical techniques as presently used in oil exploration (3 units)

GEO 512 Ore Deposits: geologic relations, origin, distribution, and economics of metallic and non metallic mineral deposits (3 units)

GEO 521 Petroleum Geology: geological occurrence of petroleum and the application of geologic principles in exploration and production (3 units)

GEO 524 Optical Mineralogy : Theory and use of the polarizing microscope for determining optical properties of minerals (3 units)

GEO 525 Petrography: a study of rocks with the polarizing microscope (3 units)

GEO 526 Sedimentology: Origin, description and interpretation of sedimentary rocks and structures (3 units)

GEO 530 Geochemistry: the relationship of basic chemical principles to geologic phenomena and environments (3 units)

GEO 540 Marine Geology: plate tectonic origin and history of the ocean basins (3 units)

GEO 545 Descriptive Physical Oceanography: physical environment of oceans including heat, water, and salt budgets (3 units)

GEO 548 Coastal and Estuarine Physical Oceanography: physical processes of marine coastal areas and estuaries (3 units)

GEO 550 Engineering Geology: relationship between geologic processes and works of humans (3 units)

GEO 551 Hydrogeology: theory of ground water flow. Exploration for and development of the ground water resource. (3 units)

GEO 596 Advanced Topics in Geology: advanced special topics in the field of geology (4 units)

GEO 600 Seminar : an intensive study in advanced geology (3 units)

GEO 609 Igneous Petrology: investigation of problems in igneous petrology (3 units)

GEO 612 Geology of Clays: systematic mineralogy of clays and routine methods of identification (3 units)

GEO 633 Quaternary Geology: quaternary climate, geochronometric dating and soil stratigraphy (3 units)

GEO 635 Petrology of Terrigenous Rocks: thin section and hand specimen description and classification of sandstones, conglomerates and mudrocks (3 units)

GEO 640 Geotectonics: a consideration of topics in continental genesis and evolution (3 units)

GEO 642 Neotectonics: observation, interpretation and significance of late Quaternary crustal formation (3 units)

GEO 651 Numerical Modeling of Ground Water Flow: finite difference approximation of ground water and mass transport equation (3 units)

GEO 653 Exploration Techniques in Ground Water Technology: practical techniques of ground water exploration and resources evaluation (4 units)

GEO 675 Ground Water Geochemistry: theory and practical application of chemical diffusion and dispersion processes (4 units)

GEO 685 Genesis of Ore Deposits : application of mineralogy, petrography and chemistry to an understanding of the origin of ore deposits (3units)

GEO 797 Research: supervised research in the area of geology (3units)