

BACHELOR OF SCIENCE IN PHYSICS MINOR IN ECONOMICS

Description and Aims of the Program

The BS-Physics minor in Economics is an 11-term undergraduate program in physics, that provides students with

- a full undergraduate physics program;
- the essential mathematical preparations required for the study of complex systems;
- an introduction to the fundamental concepts and ideas in either economics.

It is hoped that with this curriculum, graduates of the program will have

- the quantitative analytical skills characteristic of a good graduate of a BS-Physics program;
- sufficient mathematical sophistication to deal with complex systems;
- enough background in economics to understand the subject of his/her study.

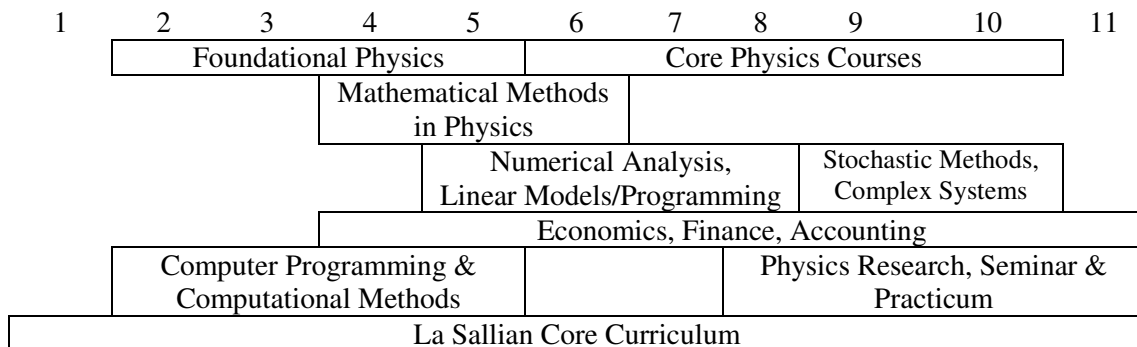
Graduates of the program will hopefully find placements in financial institutions where they can offer a unique set of skills and offer fresh perspectives to the fields, thus opening an opportunity to contribute to a fuller understanding of the complex phenomena of economics.

Expected Learning Outcomes or Competencies

Critical and Creative Thinker	<ol style="list-style-type: none">1. apply mathematical, computational and experimental methods in solving physical problems*2. able to evaluate quality of information gathered from varied sources3. capable of translating scientific knowledge and methods into innovations in materials science, medicine, economics and finance
Effective Communicator	<ol style="list-style-type: none">1. synthesize and effectively communicate scientific information*2. able to express thoughts in a logical, clear, concise, and precise manner
Reflective Lifelong Learner	<ol style="list-style-type: none">1. apply scientific reasoning to arrive at decisions*2. actively pursue new knowledge, be open to new ideas, and respect other people's view points3. pursue personal and professional growth by constantly acquiring new skills and keeping abreast with technological advancement
Service-driven Citizen	<ol style="list-style-type: none">1. employ scientific skills and knowledge for the improvement of human life and the preservation of the environment2. uphold intellectual honesty and integrity in their conduct

*CHED competency standards for BS Physics, (CHED Memo No. 20, Series of 2007, Article IV)

Program Structure



Students in the minor in Economics programs will join the other undergraduate physics majors in their physics and computer courses, except for Stochastic Methods and Dynamics of Complex Systems. These courses will however be open to students of the graduate physics programs as electives. For elementary statistics and upper-level mathematics, the students in the program will join the mathematics majors. For the minor courses in economics, students of the program will join economics majors of the college of business and economics.

REQUIRED COURSES WITH COURSE CREDITS

Part I. General Education, Basic and Major Courses

All BS Physics majors, regardless of specialization and minor, take the following courses (general education, basic, major, research, seminar and practicum):

General Education/La Sallian Core Curriculum	Units
English	9
Humanities	6
Filipino	6
Science, Technology and Society	6
Mathematics	6
Natural Science (Physics Fundamentals)	6
History and Rizal	6
Philosophy	3
Theology & Religious Education	12
Fitness & Wellness	6
Personal Effectiveness	(6)
Great Works	3
Civic Welfare Training Service	(6)
Lasallian Retreat	0
Total	69(12)

() Non-academic courses

Basics/ Foundational Courses	Units
Physics Fundamentals	6
Analysis	12
Mathematical Methods in Physics	9
Statistics	3
Total	30

Major/ Core Courses	Units
Classical Mechanics	6
Electrodynamics	6
Quantum Mechanics	6
Statistical Mechanics	3
Computational Methods in Physics	3
Solid State Physics	3
Total	27

Basic Skills Course	Units
Computer Programming	6
Basic Electronics (lecture and lab)	4
Physics Fundamentals (lab)	4
Total	14

Research and Seminar	4
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On-the-Job-Training (Practicum)	3
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Part II. Specialization Courses

BS Physics majors have the option to choose from four tracks, namely Materials Science, Medical Instrumentation, minor in Economics, and minor in Finance. Students, depending on their chosen tracks, take 49 to 54 units of specialization courses. Below is a list of specialization courses for the minor in Economics track.

Minor in Economics	Units
Microeconomics	9
Macroeconomics	9
Econometrics	3
Financial Analysis for Economists	3
Stochastic Methods	3
Dynamics of Complex Systems	3
Linear Algebra & Linear Programming	6
Numerical Analysis	3
Computer Programming	3
Inferential Statistics	3
Linear Models for Business	3
Time Series Analysis & Forecasting	3
Total	51

PROGRAM COURSE CHECKLISTS

BS Physics minor in Economics

First Trimester, AY 2011-2012			
Course Code	Course Title	Units	Prerequisite
MATH111	College Algebra	3	
MATH112	Trigonometry	3	
LBYPHYX	Physics Laboratory 1 for Physics Majors	2	
FILKOMU	Ku'omunikasyon sa Araling Filipino	3	
TREDONE	Humanity's Search for Life	3	
KASPIL1	Pag-aaral sa Buhay, Mga Akda at Nagawa ni Dr. Jose Rizal	3	
FWTEAMS	Physics Fitness & Wellness in Team Sports	2	
PERSEF1	Personal Effectiveness Foundation	(2)	
Total Units		17+2(2)	

Second Trimester, AY 2011-2012			
Course Code	Course Title	Units	Prerequisite
MATH113	Analysis 1	4	MATH111
PHYFUN1	Physics Fundamentals 1	3	MATH111, MATH112(soft)
COMPHY1	Computer for Physics 1	3	MATH111, MATH112(soft)
SOCTEC1	Integrated Social Science, Technology & Society 1	3	
ENGLCOM	Basic Communication & Study Skills	3	
FWSPORT	Physical Fitness & Wellness in Individual/Dual Sports	2	
NSTP-C1/R1	NSTP Program - Civic Welfare Training Service/ Military Science 1	(3)	
Total Units		16+2(3)	

Third Trimester, AY 2011-2012			
Course Code	Course Title	Units	Prerequisite
MATH114	Analysis 2	4	MATH113
PHYFUN2	Physics Fundamentals 2 (lec)	3	PHYFUN1
LBYPHY2	Physics Fundamentals 2 (lab)	1	
COMPHY2	Computer for Physics 2	3	COMPHY1
ENGLRES	Basic Research Skills/ English for Specific Purposes	3	ENGLCOM
INTFILO	Introductory Philosophy	3	
NSTP-C2/R2	NSTP Program - Civic Welfare Training Service/ Military Science 2	(3)	NSTP-C1/R1
FWDANCE	Physical Fitness & Wellness in Dance	2	
LASARE1	Lasallian Recollection 1	0	
Total Units		17+2(3)	

First Trimester, AY 2012-2013			
Course Code	Course Title	Units	Prerequisite
MATPHY1	Mathematical Methods in Physics 1	3	MATH114
MATH115	Analysis 3	4	MATH114
PHYFUN3	Physics Fundamentals 3 (lec)	3	PHYFUN2
LBYPHY3	Physics Fundamentals 3 (lab)	1	PHYFUN3, LBYPHYX
COMPHY3	Computer for Physics 3	3	COMPHY2
SPEECOM	Oral Communication/Advanced Speech Class	3	ENGLRES
PERSEF2	Personal Effectiveness 2	(2)	PERSEF1
LASARE2	Lasallian Recollection 2	0	LASARE1
Total Units		17(2)	

Second Trimester, AY 2012-2013			
Course Code	Course Title	Units	Prerequisite
INSTA1	Introduction to Statistics 1	3	MATH111
LINEALG	Linear Algebra	3	MATH114
MATPHY2	Mathematical Methods in Physics 2	3	MATPHY1
PHYFUN4	Physics Fundamentals 4	3	PHYFUN3
ECONONE	Introduction to Microeconomics	3	MATH111
COMETPY	Computational Methods in Physics	3	COMPHY2
Total Units		18	

Third Trimester, AY 2012-2013			
Course Code	Course Title	Units	Prerequisite
INSTA2	Introduction to Statistics 2	3	INSTA1
CLASME1	Classical mechanics 1	3	PHYFUN1, MATPHY1
NUMEANL	Numerical Analysis	3	MATH115, LINEALG
SOCTEC2	Integrated Social Science, Technology & Society 2	3	
ECON TWO	Introduction to Macroeconomics	3	
TREDTWO	The Filipino Christian in a Changing World	3	TREDONE
Total Units		18	

First Trimester, AY 2013-2014			
Course Code	Course Title	Units	Prerequisite
CLASME2	Classical Mechanics 2	3	CLASME1
QUMEONE	Quantum Mechanics 1	3	PHYFUN3, MATPHY2
MATPHY3	Mathematical Methods in Physics 3	3	MATPHY2, MATH115
LINPROG	Linear Programming	3	LINEALG
KASPIL2	Kasaysayan ng Pilipinas	3	KASPIL1
HUMALIT	Introduction to Literature	3	ENGLRES
Total Units		18	

Second Trimester, AY 2013-2014			
Course Code	Course Title	Units	Prerequisite
LIMOBAP	Linear Models	3	INSTA2, LINEALG
QUMETWO	Quantum Mechanics 2	3	QUMEONE
PHYSEMI	Physics Seminar	1	SPEECOM
MICREC1	Microeconomics 1	3	ECON TWO, MATH114
MACREC1	Macroeconomics 1	3	ECON TWO, MATH114
TREDTRI	The Christian and the Word	3	TREDTWO
Total Units		16	

Third Trimester, AY 2013-2014			
Course Code	Course Title	Units	Prerequisite
STATMEC	Statistical Mechanics	3	PHYFUN2, MATPHY2
ELECEMA1	Electricity & Magnetism 1	3	MATPHY1, PHYFUN2
THYSPHY1	Physics Research 1	1	PHYSEMI
GRTWORK	Great Works	3	
MICREC2	Microeconomics 2	3	MICREC1
MACREC2	Macroeconomics 2	3	MACREC1
ECONMET	Econometrics	3	ECON TWO, INSTA2
Total Units		19	

First Trimester, AY 2014-2015			
Course Code	Course Title	Units	Prerequisite
MATPHYS	Stochastic Methods in Physics	3	STATMEC
ELECEMA2	Electricity & Magnetism 2	3	ELECEMA1
SOLSTAT	Solid State Physics	3	STATMEC, QUMEONE
COMPDYN	Dynamics of Complex Systems	3	CLASME1
THYSPHY2	Physics Research 2	1	THYSPHY1
TIMEFOR	Time Series Analysis & Forecasting	3	LIMOBAP
TREDFOR	The Christian Vocation of Life	3	TREDTRI
PERSEF3	Personal Effectiveness 3	(2)	PERSEF2
LASARE3	Lasallian Retreat	0	LASARE2
Total Units		18(2)	

Second Trimester, AY 2014-2015			
Course Code	Course Title	Units	Prerequisite
THYSPHY3	Physics Research 3	1	THYSPHY2
BAELEC1	Basic Electronics 1	3	PHYFUN2
LBYPHYK	Basic Electronics Lab 1	1	LBYPHY2
FINALEC	Finance Elective	3	
FILDLAR	Pagbabasa at Pagsulat sa Iba't Ibang Disiplina/ Larangan	3	FILKOMU
HUMAART	Introduction to Art	3	
Total Units		15	

Summer, AY 2013-2014			
Course Code	Course Title	Units	Prerequisite
PRACPHY	Practicum for Physics Majors	3	
Total Units		3	

TO THE STUDENT: Please take note that subjects should not be enrolled without passing their respective pre-requisite. Be reminded that subjects taken without having passed the pre-requisite will be INVALIDATED. Subjects without pre-requisite can be taken in any term. Please be guided accordingly. Thank you.

Academic Units	198
Non-Academic Units	12
Total Units	210

COURSE DESCRIPTIONS

Basic/Foundational Courses

PHYFUN1 Physics Fundamentals 1 (3 units)

Vectors; kinematics; Newton's Laws; energy; momentum

Pre-requisite: College Algebra, Trigonometry

PHYFUN2 Physics Fundamentals 2 (3 units)

Coulomb's Law; electric field and potential; Gauss's Law; electric circuits; Ohm's Law; Kirchhoff's rules; magnetostatics; magnetic induction

Pre-requisite: Physics Fundamentals 1

PHYFUN3 Physics Fundamentals 3 (3 units)

Oscillations; mechanical waves; vibrating bodies; acoustics; electromagnetic waves; geometrical and physical optics

Pre-requisite: Physics Fundamentals 1

PHYFUN4 Physics Fundamentals 4 (3 units)

Special Theory of Relativity; modern physics

Pre-requisite: Physics Fundamentals 1

MATH111 College Algebra (3 units)

A course covering the number systems, algebraic functions, relations and graphs, equations, systems of equations, inequalities, and inverse functions.

MATH112 Trigonometry (3 units)

A course including polynomial functions, exponential and logarithmic functions, circular functions, trigonometric identities and equations, complex numbers, law of sines, law of cosines and solution of triangles.

MATH113 Mathematical Analysis 1 (4 units)

A first course in Analysis covering plane analytic geometry, limits and continuity, derivatives of algebraic functions, and their applications.

Pre-requisite: College algebra, trigonometry

MATH114 Mathematical Analysis 2 (4 units)

A continuation of Analysis 1. It covers differentials, indefinite and definite integrals and their applications, derivatives and integrals of logarithmic and exponential functions, trigonometric functions, and techniques of integration.

Pre-requisite: Mathematical analysis 1

MATH115 Mathematical Analysis 3 (4 units)

A continuation of Analysis 2. It covers polar coordinates, indeterminate forms and improper integrals, infinite sequences and series, 3-dimensional space, quadric surfaces, functions of several variables and evaluation of multiple integrals in Cartesian coordinates.

Pre-requisite: Mathematical Analysis 2

STATSCI Introduction to Statistics 1 (3 units)

A course covering descriptive statistics, basic rules of probability, discrete probability distributions, normal distribution, sampling distributions, confidence intervals and tests of hypotheses for means, difference of means and variance, t and chi-square distribution and proportion.

Pre-requisite: College Algebra

MATPHY1 Mathematical Methods in Physics 1 (3 units)

Vector analysis covering algebra, differentiation and integration; integral theorems; curvilinear coordinates.

Pre-requisite: Mathematical Analysis 2

MATPHY2 Mathematical Methods in Physics 2 (3 units)

A course on ordinary and partial differential equations with emphasis on second-order differential equations.

Pre-requisite: Mathematical Methods in Physics 1

MATPHY3 Mathematical Methods in Physics 3 (3 units)

A course on complex analysis and integral equations. It includes contour integration, calculus of residues and Fourier transform.

Pre-requisite: Mathematical Methods in Physics 2

Major/Core Courses

CLASME1 Classical Mechanics 1 (3 units)

Newtonian, Lagrangian and Hamiltonian formulations of classical mechanics, applications to central forces and harmonic oscillators

Pre-requisite: Physics Fundamentals 1, Mathematical Methods for Physics 1

CLASME2 Classical Mechanics 2 (3 units)

Non-inertial frames, rigid bodies, systems of particles, relativistic kinematics and dynamics

Pre-requisite: Classical Mechanics 2

ELECMA1 Electricity and Magnetism 1 (3 units)

Electrostatics and magnetostatics in vacuum, boundary value problems, electrodynamics

Pre-requisite: Physics Fundamentals 2, Mathematical Methods for Physics 1

ELECMA2 Electricity and Magnetism 2 (3 units)

Electrostatics and magnetostatics in material media, electromagnetic waves and electromagnetic radiation

Pre-requisite: Electricity and Magnetism 1

QUMEONE Quantum Mechanics 1 (3 units)

Postulates of quantum mechanics, the Schrödinger equation and its applications to harmonic oscillators and central forces, operator methods and matrix mechanics

Pre-requisite: Physics Fundamentals 3, Mathematical Methods 2

QUMETWO Quantum Mechanics 2 (3 units)

Spin, angular momenta, hydrogen atom, perturbation theory and identical particles

Pre-requisite: Quantum Mechanics 1

STATMEC Statistical Mechanics (3 units)

Probability theory; equilibrium statistical mechanics and thermodynamics; kinetic theory; diffusion; phase transformations

Pre-requisite: Physics Fundamentals 2, Mathematical Methods 2

SOLSTAT Solid-State Physics (3 units)

Crystal structures and crystallography; free electron theory of metals; electron states in periodic potentials; band theory of solids; lattice oscillations; fundamentals of electrical, thermal, magnetic and optical properties of metals, dielectrics and semiconductors and polymers; superconductivity

Pre-requisite: Statistical Mechanics, Quantum Mechanics

Basic Skills Courses

BAELEC1 Basic Electronics 1 (3 units) + 1 unit laboratory

Introduction to electronics covering basic DC and AC circuit analysis, diode and transistor circuits, logic gates and basic logic operations.

Pre-requisite: Physics Fundamentals 2, Physics Fundamentals Laboratory 2

COMPHY1 Computer for Physics 1 (3 units)

This course is designed for students in the B.S. Physics program. It provides all programming essentials for constructing simple scientific applications.

Pre-requisite: College Algebra

LBYPHYX Physics fundamentals Laboratory 1 (2 units)

This is a first course in physics for physics majors, covering the basic concepts and laws in mechanics in a laboratory setting and activities to develop basic laboratory skills.

LBYPHY2 Physics Fundamentals Laboratory 2 (1 unit)

This course complements the lecture courses on PHYSICS 2 for engineering, science and computer studies students. It covers activities to further develop basic laboratory skills initially practiced in PHYSICS LABORATORY 1. Selected experiments in thermodynamics, electricity and magnetism will be performed.

Pre-requisite: Physics Fundamentals Laboratory 1

Co-requisite: Physics Fundamentals 2

LBYPHY3 Physics Fundamentals Laboratory 3 (1 unit)

This laboratory course is designed for College of Science students taking up Fundamentals of Physics 3 (lecture component). The course supplements the topics discussed in the lecture class. Specifically, experiments in waves and optics are performed to provide the student concrete applications of concepts learned in the lecture class.

Pre-requisite: Physics Fundamentals Laboratory 2

Co-requisite: Physics Fundamentals 3

Research, Seminar and Practicum

PHYSEMI Physics Seminar (1 unit)

This course enables the students to prepare for their thesis proposal by the 12th week of the trimester. Students enrolled in this subject **MUST** also be working as apprentices in one of the research groups of the department. Also, this subject enables them to write their thesis proposal. In writing the thesis proposal, the students get a feel of the requirements of the study they will undertake along with its theoretical background. This course also aims to develop the following Lasallian characteristics: critical and logical thinking, resourcefulness and innovativeness, perseverance and self-discipline.

Pre-requisite: Oral Communication/ Advanced Speech Class

THSPHY1 Physics Research 1 (1 unit)

The first thesis course for physics majors. The major requirement for the course is the presentation of a thesis proposal.

Pre-requisite: Physics Seminar

THSPHY2 Physics Research 2 (1 unit)

The second thesis course for physics majors where students are expected to conduct the greater part of their thesis research.

Pre-requisite: Physics Research 1

THSPHY3 Physics Research (1 unit)

The third and last thesis course for physics majors. Students are expected to finalize their thesis research and present the work to a panel of examiners.

Pre-requisite: Physics Research

PRCPHYS Practicum for Physics Students (3 units)

A practicum course for Physics students.

Specialization Courses for Minor in Economics and Finance

COMPDYN Dynamics of Complex Systems (3 units)

Non-linear dynamics; deterministic chaos; Lyapunov exponents; strange attractors; fractals and multifractals; bifurcations and catastrophes; Introduction to models and applications of complex networks.

Pre-requisites: Classical Mechanics 1

MATPHYS Stochastic Methods in Physics (3 units)

Theory of gaussian stochastic processes and their evolution equations; random walks; stochastic calculus and stochastic differential equations; introduction to non-gaussian stochastic processes; Levy stable distributions and fat tails.

Pre-requisite: Statistical Mechanics

LINEALG Linear Algebra (3 units)

A study of systems of linear equations, vector space, linear dependence, bases, dimensions, linear transformations, matrices, determinants, eigenvalues, eigenvectors.

Pre-requisite: Mathematical Analysis 2

NUMENLA Introduction to Numerical Analysis (3 units)

A course in linear and non-linear equations, system of linear equations, numerical differentiation and integration, and numerical solutions to differential equations.

Pre-requisite: Linear Algebra, Mathematical Analysis 3

LINPROG Linear Programming (3 units)

A first course in operations research. This course exposes the students to basic linear optimization analysis, the revised simplex method, duality, and the interior-point method.

Pre-requisite: Linear algebra

INSTA2 Inferential Statistics (3 units)

A second course in statistics covering chi-square and F distributions, tests of hypotheses for difference of means, proportion, difference of proportions, variance, difference of variances, regressions, correlation, analysis of variance, and the use of non-parametric methods. It also includes the steps to be undertaken in conducting sample surveys, theoretical discussions on different sampling designs, estimation procedures using the various designs, sample size estimation as well as variance reduction techniques.

Pre-requisite: Introduction to Statistics 1

LIMOBAP Linear Models for Business Applications (3 units)

A study of various linear statistical models that arise in practice. Topics include multivariate normal distribution, distribution of quadratic forms, general linear models, estimation and tests of hypotheses about linear hypotheses, and design matrices giving rise to analysis of variance models.

Pre-requisite: Inferential Statistics, Linear algebra

TIMEFOR Time Series Analysis and Forecasting (3 units)

A course dealing with the different methods of forecasting time series data– classical smoothing procedures and the use of statistical models. The theoretical and model building issues of techniques like exponential smoothing, moving average, seasonal decomposition, ARIMA models, and transfer functions.

Pre-requisite: Linear Models for Business applications

ECONONE Basic Microeconomics (3 units)

The course aims to give an appreciation and understanding of basic theories and concepts in economics, and its application to current national and international economics issues. In addition, this course exposes the students to alternative tools of economic analysis and how they are used to solve problems of a country. The course introduces students to basic microeconomics. Microeconomics focuses on individual decision-making units like the consumer and suppliers. It also deals with trends that affect particular business firms, workers, or regions in the economy.

Pre-requisite: College Algebra

ECONTWO Introduction to Macroeconomics (3 units)

This course is an introduction to macroeconomics, the study of aggregate (or national) economic behavior. As an introductory course, it will provide you with the concepts and tools necessary to read the newspaper critically for economic content, while providing a foundation for future economic courses. After a quick introduction to the fundamental principles of economic analysis, including graphing and theoretical concepts, the succeeding sessions will focus on learning the tools of macroeconomics and exploring the role of fiscal policy, followed by a study of money - its functions, its place in the economy, and its use as a policy tool. With this knowledge, the remainder of the term can be devoted to a deeper discussion of issues involving unemployment and inflation, government budget deficits, exchange rates, the open economy and other current policy issues.

Pre-requisite: Basic Microeconomics

MICREC1 Microeconomic Theory 1 (3 units)

This is the first of a two-course Intermediate Microeconomic Theory sequence. The objective of the course is to provide students with the central concepts of decision-making and optimization in a market framework. Simple mathematical models are used to develop these concepts. It concentrates on the theories of consumer decision-making, production and costs, and partial equilibrium competitive models.

Pre-requisite: Introduction to Macroeconomics, Mathematical Analysis 2

MICREC2 Microeconomics 2 (3 units)

This is the second of a two-course study of Intermediate Microeconomics. In this course, we examine price determination under imperfectly competitive structures (monopoly, oligopoly and monopolistic competition), both in the market for goods and production inputs (e.g., labor and capital services). We then go on to analyze the efficiency of a competitive model of market interdependence (e.g., general equilibrium). We will then consider the possibility of market failures due to externalities and asymmetric information. Special topic such as decision-making under uncertainty is also taken up.

Pre-requisite: Microeconomic Theory 1

MACREC1 Macroeconomics 1 (3 units)

This course aims to provide a comprehensive view on basic macroeconomic concepts focusing on: national income accounting; goods, labor, and financial markets; as well as the determination of output, inflation rates, interest rates, and employment. It also discusses the role of fiscal and monetary policies. Finally, it considers certain macroeconomic issues such as the relation

between unemployment and inflation, aggregate demand and aggregate supply, and the government's budget, among others.

Pre-requisite: Basic Macroeconomics, Mathematical Analysis 2

MACREC2 Macroeconomics 2 (3 units)

This course will discuss certain macroeconomic issues that are concerned with economic growth and the role of expectations. It will also present the dynamics of the open macroeconomy, focusing on exchange rates, the IS-LM model, among others. The course will also tackle macroeconomics events that do not conform to long-run concepts such as high unemployment and inflation. Finally, it will look at the features of discretionary fiscal and monetary policies.

Pre-requisite: Macroeconomics 1

ECONMET Econometrics (3 units)

A study of econometric methods for students who have had a term's work in economic statistics. The course includes a study of the classical linear regression model and the basics of econometric theory covering among others autocorrelation, multicollinearity, and heteroscedasticity.

Pre-requisite: Inferential Statistics

FINALEC Financial Economics (3 units)

An integrated view of the financial functions of a business firm. It provides economics students a working knowledge about the tools in financial analysis and an appreciation of the use of financial information for decision-making and economic analysis.

Pre-requisite: Microeconomics 2, Macroeconomics 2

ACTBAS1 Introductory Accounting – Part I (3 units)

This introductory course is designed to develop a basic understanding of the conceptual framework underlying the measurement and communication of financial data. The fundamental concepts and principles are introduced and discussed. It covers the entire accounting cycle of a sole proprietor in a service enterprise.

ACTBAS2 Introductory Accounting – Part II (3 units)

This course extends the study of the accounting cycle for a sole proprietorship form of business engaged in merchandising activities. It includes recording of business transactions using special journals. The voucher system and bank reconciliation are discussed. Students are exposed to the use of an accounting software package in processing business transactions.

Pre-requisite: Introductory Accounting – Part I

FINMATH Financial Management (3 units)

Pre-requisite: Introductory Accounting – Part II

FINBANK Bank Management (3 units)

This is a major course that firmly equips the students with the necessary concepts, principles, and techniques used in sourcing and allocating bank funds that would maximize shareholders' wealth whilst maintaining adequate liquidity consistent with acceptable levels of risks. As banking continues to be an industry-in-change, FINBANK logically begins in familiarizing the students

with the financial environment in which bank managers must operate in - the structure, functions and operations of financial intermediaries. It is the end view of the course to challenge students, as prospect bankers, to be able to confront head-on the strategic issues of risk, return, regulation, competition, technology, and globalization that face and shape all the past, present and future of the banking industry in its entirety.

Pre-requisite: Financial Management

FINVEST Investment Analysis and Portfolio Management (3 units)

This course introduces future investment managers with the basic concepts, techniques, and processes to investment analysis and portfolio management. The concentration of the course is the evaluation of the traditional investments in the Philippines, in particular, and the world, in general.

FINTERM Financial Markets and Non-Bank Financial Institutions (3 units)

This is a study of financial markets and non-bank financial institutions. The basic principles to be studied are the following: an overview of the financial system, the theory of financial structure, interest rates, and portfolio choice. Efficient capital markets are also discussed. Specifically, the following financial markets are given particular attention: the debt (bond) market, the stock market, and the foreign exchange market. The course also focuses on the operations of major non-bank financial institutions such as: private equity firms, investment banks, securities brokers and dealers, and mutual funds.

Pre-requisite: Financial Management

FINSURE Insurance Mangement (3 units)

This is a major finance course that covers the basic concepts of general and property insurance and life insurance and organization and management, funds, investments, reinsurances, and insurance legislation. Integrity in underwriting and fairness in claims administration are addressed together with technical and managerial competence and introduction to actuarial calculations and valuation. The course is being studied: as a risk management function in the interests of policyholders, insurers, and the society in general being the ultimate beneficiary; and as a financial intermediary contributing to national development through capital formation and allocation.

Pre-requisite: Bank Management, Financial Markets and Non-Bank Financial Institutions

FINRISK Management of Risk in Financial Institutions (3 units)

This course is focused on the management and mitigation of risk faced by financial institutions. These risks, which can be classified into market risk, liquidity risk, credit risk, and operational risk, have to be addressed as bank and insurance companies prepare themselves to expand their operations globally and domestically. This elective course is also focused on the understanding and the importance of developing an Enterprise-wide Risk Management Framework in the effective management of risks. This is done through an in-depth understanding and analysis of the different risk models. The course provides students understanding of the regulatory environment and framework through the exhaustive discussion of the existing Basle Accord as well as its proposed amendments.

Pre-requisite: Bank Mangement, Financial Markets and Non-Bank Financial Institutions

General Education Courses

ENGLCOM Basic Communication and Study Skills (3 units)

A course that primarily focuses on the development of communicative competence in reading and writing. ENGLONE will use various strategies in academic reading, and the process approach to academic writing. Evaluation will include traditional and nontraditional (portfolio assessment) methods.

ENGLRES Basic Research Skills/ English for Specific Purpose (3 units)

A course that advances the basic academic reading and writing skills learned in English One. It also enhances the critical thinking skills necessary in conducting research and develop skills required in technical communication of a particular field (Business, Computer Science, Engineering, Liberal Arts, Education, Science.)

Pre-requisite: Basic Communication and Study Skills

SPEECOM Oral Communication/ Advance Speech Class (3 units)

An English for Specific Purposes (ESP) course that focuses on the production, delivery and assessment of the following, the impromptu, lecture and /or persuasive speech for individual presentation, and the group/panel discussion for group presentation. The presentation aim at providing first-hand experience in public speaking to develop their self-confidence and critical thinking.

Pre-requisite: Basic Communication and Study Skills

HUMALIT Introduction to Literature (3 units)

The study of literary forms or genres as exemplified by selected literary texts from various countries at different historical periods.

Pre-requisite: Basic Research Skills/ English for Specific Purpose

HUMAART Introduction to Art (3 units)

An introduction to the elements and principles of art (music, dance, architecture, sculpture, painting and film) through a critical examination of the major art works, movements and styles in the Philippines and the world. It is principally a study of arts as processes of the creative imagination in dynamic interaction with its multi-faceted worlds.

Pre-requisite: Basic Research Skills/ English for Specific Purpose

SOCTEC1 Science, Technology and Society 1 (3 units)

The course focuses on the interface between science and technology on the one and human society and culture on the other. The course analyzes how science influences and is influenced by prevailing views and attitudes in society about the individual person, human culture and society, and human and social development and progress.

SOCTEC2 Science, Technology and Society 2 (3 units)

The course is about the influence and consequences of science and technology on various aspects of society, such as the environment, the economy, modernization and globalization, social and power relations, and governance.

Pre-requisite: Science, Technology and Society 1

FILKOMU Komunikasyon sa Filipinohiya (Basic Communication in Filipino, 3 units)

Gamit ang Wika sa higit na mataas na makrokanayan sa pagtalakay ng Araling Pilipinas (Philippines Studies) sa pagkilala at pag-unawa sa sarili at sa pambansang identidad, kultura at lipunan. Pangkalahatang saklaw ng kurso ang pagtatamo ng bawat lasalliang estudyante ng kompetens sa komunikasyon sa apat na diskors na may kontent ng Filipinohiya sa larangang akademik.

FILDLAR Pagbasa at Pagsulat sa Iba't-ibang Disiplina (Filipino for Specific Purposes, 3units)

Fokus ng kurso ang paglinang ng mga kasanayan sa analitikal at kritikal na pagbasa at pagsulat para sa pangangailangang akademik at komunikasyon pamprofesyon na nagsasaalang-alang sa ibat ibang rejister ng wika. Pag-aralan ang mga teknik sa pagsasalin at estratehiya sa pagbasa na lampas sa komprehensyon gamit ang mga genre na nakasulat (maging naririnig, napapanood) na tekstong disiplinang o buhat sa ibat ibang larangan ng gamit ng wika-humanidades, agham panlipunan at komunikasyon, at agham at teknolohiya, at profesyon. Magsisilbing modelo ang mga babasahin sa pagsulat ng mga iskolarling sanaysay at riserts.

Pre-requisite: Komunikasyon sa Filipinohiya

KASPIL1 Buhay, mga Sinulat at Nagawa ni Dr. Jose Rizal (Rizal Studies, 3 units)

Isang kritikal na pagaaral at pagsusuri sa buhay, mga akda at nagawa ni Dr. Jose Rizal mula pagkabata hanggang sa siya ay itanghal na isang bayani. Tinatalakay din sa kurso ang panahong pre-kolonyal hanggang sa kolonyalismong Espanyol sa Pilipinas na may diin sa ika-19 na dataon na siyang panahong ginalawan ni Dr. Jose Rizal. Ang kurso ay alinsunod sa itinatadhana at diwa ng Batas Rizal (R.A.1425, 1956) na naglalayong matugunan ang pangangailangan ng pangkasalukuyang panahon na mapagtibay ang damdaming makabayan ng mga magaaral.

KASPIL2 Kasaysayan ng Pilipinas (Philippine History, 3 units)

Isang mapamunang pag-aaral ng kasaysayan ng Pilipinas at ang kanyang mga institusyong pulitikal, ekonomiko, sosyal at kultural mula sa pagkakatatag ng Unang Republika hanggang sa kasalukuyan ayon sa pananaw ng isang Pilipino. Tinatalakay nito ang pagkabuo, pagunlad at ang mga hinang na suliranin ng bansang Pilipinas sa bawat yugto ng kasaysayan mula sa pananakop ng mga Amerikano. Sa kursong ito, maipapaalam sa mga mag-aaral ang prosesong historikal bilang isang disiplina ng agham panlipunan at sa napakahalagang papel nito sa pag-unawa at pagbibigay solusyon sa mga isyung kinakaharap ng bansa sa kasalukuyan.

Pre-requisite: Buhay, mga Sinulat at Nagawa ni Dr. Jose Rizal

INTFILO Introduction to Philosophy (3 units)

Philosophy, both as a way of life and an academic discipline, examines and understands the fundamental questions about the world and human life, seeks answers to these questions, and applies the answers to daily living. It also examines the basis upon which beliefs are held, and explores possible interconnections among various fields of knowledge. This course shall introduce students to the ideas of some of the world's greatest philosophers, which have shaped the way in which human beings think and live.

TREDONE Humanity's Search for Life (3 units)

In the Asian context, religion is bound up with the people's stories about the search for life and salvation. It is at the core of the Asian way of life. As the course looks at the uniqueness of the different religious traditions, the students are led to a critical appreciation of and openness to the truth-claims as expressed in their beliefs, norms, and rituals. This discovery will lead students to a greater interest in interreligious and ecumenical dialogue and to a mature faith.

TREDTWO The Filipino Christian in a Changing World (3 units)

This course will help students to develop as persons in communities of moral discernment. The Filipino-Christian living in a rapidly changing world is confronted with challenges and alternative lifestyles which demand proper discernment, evaluation and decision.

Pre-requisite: Humanity's Search for Life

TREDTRI The Christian and the Word (3 units)

The project aims to develop a manual for the course, The Christian and the Word (TREDTRI), consisting of a student guide and an instructional guide for TREDTRI teachers. The student guide and the instructional guide will indicate the topics, learning objectives, methodology, activities, evaluation, and resources pertinent to the course.

Pre-requisite: The Filipino Christian in a Changing World

TREDFOR The Christian Vocation to Life (3 units)

The search for meaning is inseparable from one's chosen state of life. Taking into account insights from relevant disciplines, the course deepens the students' general understanding of the universal call to holiness of the Reign of God and various responses to it. Moreover, the course prepares them to live in accord with their chosen response to God's call in an authentic and Lasallian Christian manner.

Pre-requisite: The Christian and the Word

GREATWK The Great Works (3 units)

The course is designed to center on a theme built around three Great Works from various cultures/disciplines that have exerted influence on the way human beings think about themselves in relation to the world. The course will be taught by a team of three teacher-facilitators who will rotate every four weeks in three classes. Each teacher will facilitate the reading and discussion of one work. Towards the end of the term, the teachers will meet as a team with all the students of the three classes in sessions that will serve to integrate the discussions on the three Great Works. Through the course, students are given a venue to participate in multidisciplinary discourses on how a particular Great Work "reads" or "thinks through" the human problems with new perspectives and paradigms.

FWTEAMS Fitness and Wellness in Team Sports (2 units)

The course aims to provide an opportunity to introduce fundamentals skills of specific team sports and strategies of organized team sports, their history and development, international amateur rules, system of play plus the facts and concepts of cardiorespiratory endurance, body composition, musculoskeletal fitness like flexibility, muscular strength, endurance and common team sports injuries prevention and rehabilitation.

FWSPORT Fitness and Wellness in Individual/Dual Sports (2 units)

An introductory course designed to familiarize freshman students with basic concepts, principles and practices focusing on the integration of Health-related, Performance related Physical Fitness skills, sport specific Skills and Wellness in order to develop and maintain an active lifestyle.

FWDANCE Fitness and Wellness in Dance (2 units)

This course introduces the students to the fundamental step patterns of simple to intricate variations of selected classic dance sport dances, contemporary classic Filipino and Filipino rhythmic dances. It also encourages the students to choreograph variations of their own. Students express their feelings or emotions through movements disciplined by rhythm. Dance etiquette, health and safety in dancing, posture and body mechanics are also included together with other concepts of fitness other than performance and health related fitness.

PERSEF1 Personal Effectiveness 1 (2 units, non-academic)

The Lasallian Core Curriculum of the DLSU-Manila aims at developing a whole person who embodies the Lasallian values and demonstrates professional skills as well as personal competencies. This individual is mature in all aspects of his/her person, with a nationalistic and humanistic outlook and carefully reasoned faith. PERSEF1 is a foundational course in the Lasallian Core curriculum, to be taken by all students in their first year. It provides the information and skills that they need in order to adjust to college life. The course covers basic topics in each of the 5 themes of total personal development, designed to complement their academic and spiritual growth. These themes will be further explored in the 2 Personal Effectiveness courses which the students will take in later years.

PERSEF2 Personal Effectiveness 2 (2 units, non-academic)

PERSEF 2 is a formative course in the Lasallian Core Curriculum, taken by students in their 2nd or 3rd year, before they take their practicum courses. It focuses on their preparation for entry into the world of work. It is based on the theory that career is a developmental process that starts in childhood and goes on through life. One's career development is thus affected by, and affects, one's physical, socio-psychological, spiritual and cognitive development. The topics of the various sessions revolve around the same 5 themes of total personal development, which were covered in PERSEF1, but take on a different level with emphasis on career development.

Pre-requisite: Personal Effectiveness 1

PERSEF3 Personal Effectiveness 3 (2 units, non-academic)

PERSEF 3 is an integrative course in the Lasallian Core Curriculum, taken by all students in their final year. It provides them the opportunity to assess their development as individuals and to plan the rest of their lives as Lasallians in the community. It covers topics in the 5 themes of total personal development, taking these to a level of introspection as well as application.

Pre-requisite: Personal Effectiveness 2