



2.2.1. Special Programmes for advanced learners and slow learners

BRIDGE COURSE SYLLABUS (2016-17)

Department of Economics

Bridge Course Syllabus for BA Economics- 2016-17 Introduction to Economics

Objectives:

The objective of this introductory course in economics is to equip students from other streams to have a basic knowledge of economics.

Learning Content and Learning Outcome

At the end of the lessons, students should be able to understand the below mentioned concepts and be able to relate these to advanced learning.

- Various dimensions of Economics
- Fundamental economic problems
- Economics of development
- Individual choice
- Production and behavior of firms
- Good market and market structure
- Macroeconomic concepts and problems
- Money and banking
- National income and Indian economy

Module 1- Nature and Scope of Economics

What economics is all about- Definitions, Basic economic problems- scarcity and choice, production possibility curve, Micro economics and Macro economics, Positive Economics and Normative Economics, Introducing ancient economic thinkers: Plato, Aristotle, Classical economists: Adam Smith, Ricardo, Malthus, J S Mill, Mercantilism, and Physiocracy, Gandhian Economics. (5 hours)

Module 2- Economic Development

Basic features of prevalent economic systems- Capitalism, Socialism, Mixed Economy, Economic growth and development, measuring economic development, Poverty and Inequality, unemployment, demographic transition, Economic Dualism, Economic Planning, Economic development and Environment. (5 hours)

Basic Readings

1. Samuelson P A Noedhaus (2009), Economics, Tata McGraw Hill
2. Mankiw, Gregory (Recent edition), Principles of Economics, Cengage Learning, Delhi
3. Case & Fair (2007). Principles of Economics, Pearson Education Delhi
4. K K Dewatt (Recent edition), Modern Economic Theory, S Chand & Co. Delhi
5. Salvatore, Dominick (Oxford Student Edition), Principles of Microeconomics

6. Shapiro, Edward (1982), Macro Economic Analysis, Galgotia Publications, New Delhi (reprint edition)
7. Misra and Puri (recent edition), Indian Economy, Himalaya Publishing House, Mumbai.

Organizing Committee

Mrs. Agile Joy

Mr.Siby Abraham

Convener:

Mr. Alphonse Ligori

Department of Sociology

Bridge Course: BA Sociology 2016-2017

Bridge course is conducted for newly admitted students in the beginning of every academic year. Classes are conducted in the first week of the programme based on a syllabus prepared with an intention to create interest in social science in general and sociology in particular.

Course coordinator: Prof. R K Varghese

Number of students: 30

Contents:

1. Motivation to Education- Meaning, Aims and objectives of Education: 1 hr
2. Higher Education- Significance, Requirements of Higher Education: 1 hr
3. Science- Origin and development, Classification & application: 1 hr
4. Social science- Origin, background, Branches, Areas, Scope: 1 hr
5. Sociology- Intellectual background of origin, Founding fathers, Nature and Scope: 3 hrs
6. Basic Concepts in social science and sociology- Society, social interaction, social change, social control, social mobility: 2 hrs

Syllabi Bridge Course- 2016-17

Undergraduate Programme in Botany (B.Sc. Botany - Model I)

Se m.	Code	Name of Core Course	Total Hours / Semester
1	15U1CRB OT01	Microbiology and Phycology	3
2	15U2CRB OT02	Mycology, Lichenology and Plant Pathology	3
3	15U3CRB OT03	Bryophytes, Pteridophytes, Gymnosperms and Paleobotany	3
4	15U4CRB OT04	Anatomy and Angiosperm Morphology	3
5	15U5CRB OT05	Angiosperm Systematics, Floral Morphology and Economic Botany	3
	15U5CRB OT06	Environmental Science and Ecotourism	3
	15U5CRB OT07	Genetics and Plant Breeding	3
	15U5CRB OT08	Cell and Molecular Biology and Evolution	3
6	15U6CRB OT09	Plant Physiology and Biochemistry	3
	15U6CRB OT10	Perspectives of Science, Methodology and General Informatics	3
	15U6CRB OT11	Biotechnology and Bioinformatics	3
	15U6CRB OT12	Horticulture, Nursery Management, Embryology and Reproductive Biology	3
	15U6CRB OT13	*CORE- CHOICE BASED COURSE :- Phytochemistry and Pharmacognosy/ Plant Genetic Resource Management/ Agribusiness	3

BSc Chemistry

Bridge Course: 2016-17

Core Course- Chemistry (4 Hrs)

Atomic structure: Atom, molecule, compound, element, atomic number, mass number, isotopes, mole concept, chemical equations, redox reactions.

Chemical bonding: Types of chemical bonds -ionic bonding, covalent bonding, hydrogen bonding, hybridization. Molecular shapes.

Solutions: Concentration units, concept of acids and bases.

Periodic Table: Electronic configuration, Periodic properties- Electron negativity, Ionization energy, Electron affinity, Electropositivity.

BSc Zoology, Physics, Botany

Complementary Course- CHEMISTRY (3 hrs)

Atomic structure: Atom, molecule, compound, element, atomic number, mass number, isotopes, mole concept, chemical equations

Chemical bonding: Types of chemical bonds -ionic bonding, covalent bonding, hydrogen bonding

Stereochemistry: Isomerism – Geometrical isomerism, enantiomers and diastereomers, optical activity

Resource persons: Dr. Joseph John

Dr. Franklin J

Dr. Ignatious Abraham

Bridge Course in Basic Mathematics 2016 – 17

Duration: 12 Hrs.

Objectives

To bridge the gap between the subjects studied at the pre- university level and the subjects they would be studying in the UG Programme.

Syllabus Differentiation

Limits, Continuity, Derivative formulas, Higher order derivatives (3 hrs.)

Integration

Indefinite integral, definite integral, integration formulas, Area as integral (3 hrs.)

Algebra

Method of Solving Quadratic Equations, Partial Fractions, Synthetic Division Factorisation (3 hrs.)

Trigonometry

Definitions, trigonometric functions and properties (3 hrs.)

Resource Persons: Prof. Didimos K V

Dr. Jeenu Kurian

Prof. Sanil Jose

Department of Physics

Bridge Courses in

- ❖ Classical And Quantum Mechanics
 - ❖ Digital Electronics And Programming
- 2016-17**

Duration: 5 Hours

Venue: Seminar Hall

Objective

Bridge courses are designed as a platform for the under graduate students to gain basic understanding with the core courses in Physics. Students get ample opportunity to understand the core topics and can interact with the subject experts. The courses also focus to facilitate preparation for competitive exams such as IIT-JAM, JEST etc.

Course Contents

- Application of Lagrangian and Hamiltonian
- Planck's radiation law
- Photoelectric effect
- Combinational logic – half adder and half subtractor
- Basic C++ program structure

Resource persons: Dr. Georgekuty Joseph

Prof. V.M. George

Dr. Siby Mathew

Prof. Alex Shinu

Department of Computer Science

Bridge Course Syllabus (2016-2017)

Introduction to Computers and Programming

Programme: BSc Computer Applications

Total Hours: 3

Resource Person: Achamma Cherian

- Introduction to computers: What is computer, advantages and disadvantages, Computer Hardware - Types of computers, Input-Output and storage Devices, Computer Software - Types of software, Operating System.
- Computer Organisation: Definition, Basic Computer Operations, Arithmetic logical unit, Control unit, CPU, Computer Architecture
- Computer Programming: Introduction, Characteristics of good program, Programming errors, Testing and Debugging, Flowchart
- Computer Languages: Introduction, Types of computer languages, Assemblers, compilers and interpreters

Main References:

1. Thomas C Bartee- Digital computer Fundamentals
2. Floyd- Digital Electronics
3. Malvino & Leach- Digital Principles and Applications
4. Computer Fundamentals by P K Sinha & Priti Sinha Fourth Edition.
5. B. Kernighan and D. Ritchie, "The ANSI C Programming Language", PHI

Department of Computer Science
Bridge Course Syllabus (2016-2017)
Basic Statistics

Programme: BSc Computer Applications

Total Hours: 3

Resource Person: Lakshmi Priya

- Meaning and definition of statistics, characteristic of statistics, scope and application of statistics, advantages and disadvantages of statistics.
- Collection of data, primary and secondary data, census and sampling, classification of data, tabulation of data, diagrammatic representation of data.
- Central tendency- mean, median, mode, dispersion – range, quartile deviation, mean deviation, standard deviation.
- Permutation and combinations, concepts of probability random experiment, events, definitions of probability, examples.

Core references:

1. S.P. Gupta: Statistical Methods (Sultan Chand & Sons Delhi).
2. S.C. Gupta and V.K. Kapoor: Fundamentals Of Mathematical Statistics, Sultan Chand And Sons.
3. B.L. Agarwal: Basic Statistics, New Age International (P) Ltd.

Department of Computer Science
Bridge Course Syllabus (2016-2017)
Fundamentals of Mathematics

Programme: BSc Computer Applications

Total Hours: 3

Resource Person: Ms. Bilu P Lalu

- Theory of Numbers – Prime Numbers and Composite Numbers Greatest Common Divisor
- Trigonometry – Definitions Trigonometric Functions and properties
- Matrices – Addition, Subtraction and Multiplication Determinant and Inverse
- Conic Sections – Cartesian form of Parabola, Ellipse and Hyperbola Equations of tangents and normals
- Differentiation – Definitions and Formulas
- Integration – Definitions and Formulas
- Vectors – Dot Product, Cross Product

Reference Books:

1. Higher Algebra– S Bernard and J M Child
2. Plane Trigonometry– S L Loney
3. Matrices, Schaum's Outline Series– Frank Ayres Jr
4. Analytic Geometry– Manicavachagom Pillay
5. Thomas' Calculus– George B Thomas Jr.

SH School of Communication
Bridge Course in Basics of Sound in Film
2016-17

Programme: BA Animation and Graphics Design

Duration: 5 Hours

Resource person: Harikumar Madhavan Nair, Sound Designer (visiting faculty)

Objective

Bridge courses in SHSC are designed as a platform for the under graduate and post graduate students to gain basic understanding with the core courses in various disciplines in the school. Basics of Sound in Film is a competency demanded from all students irrespective of their specific domain and it is expected to be conducted by senior Sound Design experts. Mr. Harikumar Madhavan Nair, (an alumni of FTII) who has been a regular visiting faculty for 3 years commits himself to doing such bridge courses. Students get ample opportunity to understand the core topics and can interact with the subject expert. The course gives special thrust on perspective of sound in film.

Course Contents

Philosophy of Sound

Being sensitive to Sound treatment of a film

Appreciating audio scape of fiction/ nonfiction film

Understanding Music in film

Importance of sound design

SH School of Communication

Bridge Course in Introduction to Communication Skills

2016-17

Programme: BA Animation and Graphics Design

Duration: 5 Hours

Resource person: Anubha George, BBC Radio programmer (visiting faculty)

Objective

Bridge courses in shsc are designed as a platform for the under graduate and post graduate students to gain basic understanding with the core courses in in various disciplines in the school. Communication skills is a core competency demanded from all students irrespective of their specific domain and it is expected to be done by senior communication experts. Ms. Anubha George, (bbc radio programmer) who is a regular visiting faculty for 4 years commits herself to doing such bridge courses. Students get ample opportunity to understand the core skills and interacts with the expert. The course gives special thrust on communication as a life and employability skill.

Course contents

- # Importance of developing skills for communication # How to approach communicating in English
- # Understanding the scope of a situation for communication
- # Communication skills essential for self confidence
- # Necessity of presenting oneself

SH School of Communication

Bridge Course in Importance of Acting for Animation

2016-17

Programme: BA Animation and Graphics Design

Duration: 5 Hours

Resource person: Manu Jose, Trainer and Theatre expert (visiting faculty)

Objective

Bridge courses in SHSC are designed as a platform for the under graduate and post graduate students to gain basic understanding with the core courses in various disciplines in the school. Acting for Animation is a core competency demanded from all students in Animation irrespective of their specific domain and it is expected to be done by senior theatre experts. Mr.Manu Jose, (an alumni of Drama School) who is a regular visiting faculty for 5 years commits himself to doing such bridge courses at the beginning of semester. Students get ample opportunity to understand the core elements and can interact with the subject expert. The course gives special thrust on importance of understanding movements

Course Contents

Character is Action

Action is character

Brainstorming for developing a character

Understanding improvisation

Presenting the motion of a character

SH School of Communication

Bridge Course in Introduction to Digital Video Production

2016-17

Programme: BA Animation and Graphics Design

Duration: 5 Hours

Resource person: Mr. Krishand R.K, Filmmaker (visiting faculty)

Objective

Bridge courses in SHSC are designed as a platform for the under graduate and post graduate students to gain basic understanding with the core courses in various disciplines in the school. Digital video Production is a competency demanded from all students irrespective of their specific domain and it is expected to be done by senior film makers/ Animators/ Design experts.

Mr.Krishand R.K, (an alumni of IIT, Mumbai) who has been a regular visiting faculty for 3 years commits himself to doing such bridge courses. Students get ample opportunity to understand the core topics and can interact with the subject expert.

Course Contents

- # Understanding various stages of video production # Pre production
- # Production
- # Post Production
- # Elements of a production proposal with budget.

SH School of Communication

Bridge Course in Introduction to Web Design

2016-17

Programme: BA Animation and Graphics Design

Duration: 5 Hours

Resource person: Joffy Joseph, Web designer (visiting faculty)

Objective

Bridge courses in SHSC are designed as a platform for the undergraduate and post graduate students to gain basic understanding of the core courses before starting each semester, in various disciplines in the school. Web Design is a core competency demanded from all students in the discipline of Graphic Design and it is taught by senior Design experts. Mr.Joffy Joseph, who has been a regular visiting faculty for 3 years commits himself to doing such bridge courses. Students get ample opportunity to understand the core topics and can interact with the subject expert. The course gives general understanding on UI/ UX designs.

Course Contents

- # Designing for various Web platforms
- # Basics of brainstorming a design idea
- # How to go about researching and developing the idea
- # Importance of communication
- # Presenting a design idea

Department of Commerce

Bridge Courses in Financial Management & Corporate Accounting 2016-17

Programme: BCom Taxation

Duration: 5 Hours

Resource persons: Dr. Mathew Jose K

Mr. Sanu Varghese A

Ms. Tessa Mary Jose

Objective

Bridge course is provided to familiarize students with the fundamentals of Financial Management and Corporate Accounting. It helps them to get an overall idea of the subjects which they will be studying in the degree level. They get to understand the basic concepts of finance and accounting

Course Contents

- Fundamental concepts of financial management
- Capitalisation, Capital Structure, Cost of Capital
- Capital Budgeting and Working Capital Management
- Share Capital and Debentures
- Issue, Forfeiture, reissue of shares
- Redeemable and irredeemable debentures

Department of English
BA English Copy Editor - 2016-17
Bridge Course of Copy Editing

Resource persons: Mr. Bijo N Mathew

Duration: 10 Hours

Course Objective:

This course is designed to introduce the students to the basics of Copy Editing

Course content:

1. What is Copy Editing?
2. Relevance of Copy Editing
3. Who is a Copy Editor?
4. Basics of English Grammar
5. History of printing
6. Oral and written communication

Bridge Course of English Literature in Context

Resource persons: Dr. Joseph Varghese

Duration: 10 Hours

Course Objective:

This course is intended to familiarize the students with the social and historical context of English Literature. This includes a detailed chronology giving a quick reference guide to each period. The course provides thorough historical and literary overviews.

Course content:

1. Recall key historical and cultural contexts of English literature
2. Historical Overview
3. Literary Overview
4. Representative Texts- Analysis
5. Brief introduction to the major periods of English Literature
6. Introduction to the different genres

Bridge Course for Information Technology

Resource persons: Mr. Aravind R Nair

Duration: 10 Hours

Course Objective:

To introduce students to the various relevant aspects of Information Technology and to equip

the students to make use of ICT to supplement classroom instruction

Course content:

1. Introduction to web technologies and its applications
2. Online information sources
3. Introduction to cyber laws
4. Basics of cyber ethics-plagiarism
5. Social Networking sites
6. Introduction to Academic Databases and Journals- Swayam, Coursera, MOOCs, Moodle, Google Scholar, J-Stor, Inflightnet, EBASCO

Bridge Course: An Introduction to Graduate Attributes

Resource persons: Fr. Sabu Thomas

Duration: 5 Hours

Course Objective:

To familiarise the students with the required Graduate attributes and to initiate them to higher education.

Course content:

1. Heartian Student Attributes
2. Vision and Mission of the college
3. Motto and emblem of the college
4. College Anthem
5. Goal setting, Time management, college life, clubs
6. Utilizing the Resources of the college

Bridge Course for Common Courses in English

Resource persons: Mr. Shijo Varghese, Mr. Sunil K V

Duration: 5 Hours

Course Objective:

To enable the students to use English language accurately and effectively by enhancing his/her communication skills

Course content

1. Introduction to Communication
2. Oral and written Communication
3. Four skills of Communication

4. Significance of punctuation marks in Communication
5. Basics of English Grammar

Bridge course for the year 2016-2017

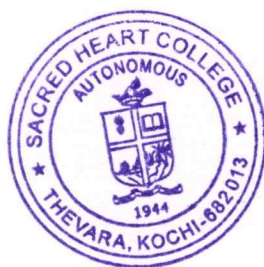
Resource Person: Mr. Jobin C Tharian

Duration 5 hrs

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| 1. An introduction to taxonomy of Animal kingdom and evolution | 1hr |
| 2. Different organ systems in the body | 1hr |
| 3. DNA, chromosomes, cell division | 1 hr |
| 4. Ecology, Ethology, Sustainable development, Biodiversity conservation | 1 hr |
| 5. Introduction to Microbiology and Immunology | 1 hr |

Basic Reference

Zoological Society of Kerala Text Book Series



Dr. Johnson X Palackappillil
Principal
Sacred Heart College (Autonomous)
Thevara, Kochi-682 013