

**SH**

SACRED  
HEART  
COLLEGE  
Autonomous



SACRED HEART COLLEGE (AUTONOMOUS)

KOCHI, KERALA – 682013

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NAAC Accreditation 4<sup>th</sup> Cycle

**Criterion II: Teaching Learning and Evaluation**

2.2.1. Special Programmes for advanced learners and slow learners

## **BRIDGE COURSE SYLLABUS (2014-15)**

## **Department of Economics**

### **Bridge Course Syllabus for BA Economics- 2014-15 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- Consumer Behaviour and Demand**

Utility- Total Utility, marginal utility, cardinal utility, ordinal utility, Law of Diminishing Marginal Utility, Consumer Equilibrium, Price, Commodity, Market Demand- meaning- law of demand, price elasticity of demand- consumer surplus (6 hours)

#### **Module 3- Producers Behaviour and Supply**

Production- production function- short run and long run- law of variable proportion, total product, marginal product, supply- law of supply, individual and market supply, market equilibrium, cost- fixed cost, variable cost, average cost, marginal cost, revenue- total revenue, average revenue, marginal revenue, producer equilibrium. (6 hours)

#### **Module 4- Forms of Market**

Main market- forms- perfect competition- monopoly- monopolistic competition, oligopoly (meaning, features), price and output determination in perfect competition. (4 hours)

#### **Module 5- National Income and Related Aggregates**

National Income- per capita income, measurement of national income in India, economic reforms in India, Kerala at a glance. (4 hours)

#### **Module 6- Money and Banking**

Money- meaning and functions, commercial banks- meaning and functions, central bank- meaning and functions, money market and capital market- meaning (4 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:**

**Dr. V T Jose**

**Mrs. Agile Joy**

#### **Convener:**

**Mr. Alphonse Ligor**

# **SH School of Communication**

## **Bridge Course in Story Telling Techniques (2014-16)**

**Duration: 5 Hours**

**Venue: BA Class room**

**Resource person: Mattias Low, Swedish Filmmaker (visiting faculty)**

### **Objectives:**

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. Story telling 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.Mattias Low, (an alumni of UCLA trained under the script writing guru, Mr.Robert McKee) who has been a regular visiting faculty for 3 years commits himself to doing such bridge courses whenever he visits. Students get ample opportunity to understand the core topics and can interact with the subject expert. The course gives special thrust on nonfiction perspective of looking at the narrative.

### **Course Contents**

**# Nonfiction and Fiction Story Telling**

**# Story Universe and Structure**

**# Understanding a Character**

**# Plot Decisions and Development**

**# Presenting a Story for Production Pitch**

## **Department of Sociology**

### **Bridge Course: BA Sociology**

**2014-2015**

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- 2014-15

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

Sem	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	15U6CRBOT09	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: 2014-15**

## **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. Thommachan Xavier

Dr. Ignatious Abraham

## **Bridge Course in Basic Mathematics 2014 – 2015**

**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. W T Paul  
Dr. Jeenu Kurian  
Prof. Sanil Jose



## **Department of Physics**

### **Bridge Courses in**

- ❖ Classical And Quantum Mechanics
- ❖ Digital Electronics And Programming

**2014-15**

**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. Georgekutty Joseph

Prof. V.M. George

Dr. Siby Mathew

Prof. Alex Shinu

**Department of Computer Science**  
**Bridge Course Syllabus (2014-2015)**  
**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 (2014-2015)**  
**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 (2014-2015)**  
**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**  
**2014-15**

**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**

**2014-15**

**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**

**2014-15**

**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**

**2014-15**

**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**

**2014-15**

**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 under graduate 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 2014-15**

**Programme:** BCom Taxation

**Duration:** 5 Hours

**Resource persons:** Prof. Johnson John

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 - 2014-15**  
**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 of 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

## Department of Zoology

### Bridge course for the year 2014-2015

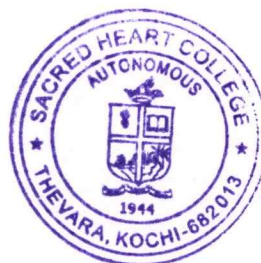
Resource Person: Dr. Philip Mathew


Duration 5 hrs

- |  |      |
|--|------|
| 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 Palackappan  
Principal  
Sacred Heart College (Autonomous)  
Thevara, Kochi-682 013