

NSS COLLEGE NEMMARA BRIDGE COURSE

Bridge courses are designed to facilitate a smooth transition between educational levels. They provide students with the necessary skills and knowledge to succeed in their new academic setting. By addressing potential gaps in their understanding and preparing them for the challenges ahead, bridge courses help students achieve a successful start to their new educational journey. All departments offer bridge courses to first-year students at the beginning of the first semester. As mandated by the curriculum, each department develops a 20-hour syllabus and timetable for these courses, which are conducted during extra hours.

**BRIDGE COURSE SYLLABUS
DEPARTMENT OF MALAYALAM**

Common Course Outcomes

1. To link higher secondary syllabi to the syllabi of under graduate courses at the entry level.
(ഹയർ സെക്കണ്ടറി സിലബസുകളെ ബിരുദാനന്തര ബിരുദ കോഴ്സുകളുടെ സിലബസുമായി എൻട്രി ലെവലിൽ ബന്ധിപ്പിക്കുന്നു.)
2. To impart basic concepts of the particular discipline and educational objectives of UG Programme.
(നിശ്ചിത വിഷയമേഖലയുടെ അടിസ്ഥാനശാഖകളും സമീപനരീതിയും സംബന്ധിച്ച ധാരണയുണ്ടാകുകയും ഡിഗ്രി തല പ്രോഗ്രാമുകളുടെ വിദ്യാഭ്യാസ ഉദ്ദേശ്യങ്ങളെപ്പറ്റി അവബോധമുണ്ടാകുകയും ചെയ്യുന്നു.)
3. To Develop aptitude and interest in specific field of study.
(നിശ്ചിതപഠനമേഖലയിൽ താല്പര്യവും അഭിഭാവവും വികസിക്കുന്നു.)

Subject Specific Outcome.

4. മലയാളസാഹിത്യത്തെയും ഭാവുകത്വചരിത്രത്തെപ്പറ്റിയുമുള്ള അടിസ്ഥാനധാരണകൾ ഉറയ്ക്കുന്നു.
5. കേരളസമൂഹരൂപീകരണം സംസ്കാരത്തിന്റെ ബഹുസ്വരത എന്നിവയെ സംബന്ധിച്ച അവബോധം
6. മലയാളഭാഷയിൽ കാര്യക്ഷമമായി രചനയും വിനിമയവും നടത്താനുള്ള ശേഷി നേടുന്നു.

മോഡ്യൂൾ ഒന്ന്

മലയാള സാഹിത്യവും ഭാവുകത്വചരിത്രവും (സമയം 5 മണിക്കൂർ)

പ്ലസ് ടു കാല പാഠപുസ്തകങ്ങളെ കേന്ദ്രീകരിച്ച് മലയാളസാഹിത്യത്തിന്റെ വ്യത്യസ്തകാലങ്ങളിലുള്ള സാഹിത്യവ്യവഹാരങ്ങളുടെ സ്വഭാവം, പ്രധാനദിശാമാറ്റങ്ങൾ, വ്യത്യസ്ത ജനുസ്സുകളുടെ സംക്ഷിപ്തസാഹിത്യചരിത്രം എന്നിവ സാമാന്യമായി അപഗ്രഥിക്കുന്നു. കവിത, കഥാസാഹിത്യം എന്നിവയിൽ പ്രധാന ഊന്നൽ നൽകണം. ചർച്ചകൾ, അവതരണങ്ങൾ, അസ്സൈൻമെന്റുകൾ എന്നീ പഠനപ്രവർത്തനങ്ങൾക്കാണ് പ്രാമുഖ്യം നൽകേണ്ടത്.

മോഡ്യൂൾ രണ്ട് (സമയം 5 മണിക്കൂർ)

സമകാലികസാഹിത്യം സാമാന്യപരിചയം.

വ്യത്യസ്ത സാഹിത്യവ്യവഹാരങ്ങൾ, വ്യത്യസ്തസാഹിത്യജനുസ്സുകൾ. ഇരുപത്തിയൊന്നാം നൂറ്റാണ്ടിലെ പ്രധാന എഴുത്തുകാർ, കൃതികൾ, ആനുകാലികങ്ങളിലെ സാഹിത്യം, സൈബർ മാധ്യമങ്ങളിലെ സാഹിത്യം, മൾട്ടി മീഡിയാ രൂപങ്ങൾ എന്നിവയിലൂടെ കടന്നുപോകണം. സമകാലികസാഹിത്യവായനയിൽ താല്പര്യവും ശീലവും വളർത്തിയെടുക്കുന്ന ചർച്ചകളാണ് ഉണ്ടാവേണ്ടത്. പരിചയപ്പെടുത്തുന്ന ക്ലാസുകൾക്കൊപ്പം വായന, ആസ്വാദനം, വിശകലനം, വിമർശനം തുടങ്ങിയ കാര്യങ്ങളിലേക്ക് പ്രചോദിപ്പിക്കുന്ന വിവിധ പ്രവർത്തനങ്ങളായി ഈ മോഡ്യൂളിനെ ക്രമപ്പെടുത്താം.

മോഡ്യൂൾ മൂന്ന് (സമയം 5 മണിക്കൂർ)

കേരളപഠനം - സമൂഹരൂപീകരണവും സംസ്കാരപരിണാമവും.

കേരളീയസമൂഹത്തിന്റെയും സംസ്കാരത്തിന്റെയും വികാസപരിണാമങ്ങളെ സാമാന്യമായി വിശകലനം ചെയ്ത് സമകാലിക കേരളീയതയെ മനസ്സിലാക്കുന്നു. മധ്യകാല നാടുവാഴിത്തം, ജാതിജന്മിത്തഘടന, കൊളോണിയൽ അധിനിവേശം, അധിനിവേശ ആധുനികത, കേരളത്തിന്റെ ആധുനികീകരണം, ജനാധിപത്യവൽക്കരണം, ബഹുജനസംസ്കാരത്തിന്റെ വളർച്ചയും സ്വാധീനവും എന്നീ ഘട്ടങ്ങളെ തിരിച്ചറിയുന്നു. സംസ്കാരം, ചരിത്രരചന, സാംസ്കാരിക ദേശീയത, പ്രബലസംസ്കാരം, സാംസ്കാരികാധിനിവേശം, പ്രാന്തവൽക്കരണം, നവസംസ്കാരപഠനം തുടങ്ങി സംസ്കാരപഠനവുമായി ബന്ധപ്പെട്ട സങ്കല്പനങ്ങളെക്കൂടി പരിചയപ്പെടണം.


Principal - in - Charge
N.S.S. College, Nemmara

NSS COLLEGE NEMMARA

DEPARTMENT OF MATHEMATICS
SYLLABUS FOR BRIDGE COURSE IN MATHEMATICS
"BRIDGECOURSE MATHS 2023-24"

Aim of the Bridge course in Mathematics is to Bridge "the School education and graduate education".

Module 1

Sets, set operations and identity (2 hours)

Cartesian products, Relations, Functions (2 hours)

Trigonometric functions and identities (2 hours)

Module 2


Limits and Continuity (3 hours)

Differential Calculus (4 hours)

Module 3

Integral Calculus (4 hours)

Matrix, Matrix Algebra, determinants (3 hours)


HEAD
Department of Mathematics
NSS College Nemmara, Palakkad - 678508


Principal - in - Charge
N.S.S. College, Nemmara.

NSS COLLEGE NEMMARA

DEPARTMENT OF MATHEMATICS

SYLLABUS FOR BRIDGE COURSE IN MATHEMATICS

"BRIDGECOURSE MATHS 2024-25"

Aim of the Bridge course in Mathematics is to Bridge "the School education and graduate education".

Module 1

Sets, set operations and identity (2 hours)

Cartesian products, Relations, Functions (2 hours)

Trigonometric functions and identities (2 hours)

Module 2

Limits and Continuity (3 hours)

Differential Calculus (4 hours)

Module 3

Integration Calculus (4 hours)

Matrix, Matrix Algebra, determinants (3 hours)

HEAD
Department of Mathematics
NSS College Nemmara, Palakkad - 678001

Principal - in - Charge
N.S.S. College, Nemmara

BRIDGE COURSE IN ENGLISH(2023-2024)

A Bridge Course in English for newly admitted students is conducted every year before the commencement of the first semester classes by the Department of English. The main objective of the course is to bridge the gap between subjects studied at Higher Secondary level and subjects they would be studying in Graduation. The syllabus for the course is framed in such a way that they get basic knowledge on the subjects that they would be learning through graduation. This one week student enhancement and development programme is devised for overall grooming and enhancement of the students' fraternity with a special punctuation for students from rural and semi rural community.

Objectives


- To bridge the gap between school and collegiate education to meet the students communicative requirements
- To prepare the students for a classroom atmosphere in which English is the medium of instruction.
- To help the students acquire the basic LSRW skills.

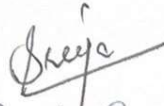
Methodology

A Curriculum is framed separately in each of the subjects, for Bridge Course in English. During the first week after the commencement of the classes, the bridge course curriculum is delivered to the students. A post bridge course test is conducted after the completion of bridge course syllabus to assess the improvement of students.

Syllabus for Bridge Course


- Introduce the world of English Literature to the students
- Listening and speaking skills mainly concentrating on conversation
- Communication and it's aspects.
- Precise writing, paragraph and report writing
- Resume preparation
- How to read the news paper?
- An Introduction to the History of English Language and Literature
- Basic English Grammar
- Sentence formation and transformation

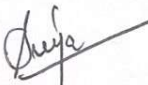

Principal - In - Charge
NSS College, Nemmara


Sreeja. G
Head of Department of English
N.S.S. College, Nemmara
Palakkad - 678 508

Outcome

After the completion of the Bridge Course in English, there was a significant progress in the Listening, Speaking, Reading and Writing skills of the students. They were confident to write grammatically correct usages that are apt to different situations. Students who had tremendous stage fear were able to overcome it and speak fluently in English. They could easily take part in Group Discussions and exhibit their views in English. They got an overall idea regarding English literature thereby bridging the learning gap.


Principal - In - Charge
NSS College, Nemmara


Sreeja. G
Head of Department of English
N.S.S. College, Nemmara
Palakkad - 678 508

BRIDGE COURSE IN ENGLISH(2022-2023) - SYLLABUS

Bridge Course in English for newly admitted students is conducted every year before the commencement of the first semester classes by the Department of English. The main objective of the course is to bridge the gap between subjects studied at Higher Secondary level and subjects they would be studying in Graduation. The syllabus for the course is framed in such a way that they get basic knowledge on the subjects that they would be learning through graduation. This two-week student enhancement and development programme is devised for overall grooming and enhancement of the students' fraternity with a special punctuation for students from rural and semi rural community.

Objectives

- To bridge the gap between school and collegiate education to meet the students communicative requirements
- To prepare the students for a classroom atmosphere in which English is the medium of instruction.
- To help the students acquire the basic LSRW skills.

Methodology

A Curriculum is framed separately in each of the subjects, for Bridge Course in English. During the first week after the commencement of the classes, the bridge course curriculum is delivered to the students. A post bridge course test is conducted after the completion of bridge course syllabus to assess the improvement of students.

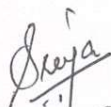
Syllabus for Bridge Course

- Idioms and phrases
- Introduce the world of English Literature to the students
- Listening and speaking skills mainly concentrating on conversation
- Developing listening, reading, writing and speaking skills
- Precise writing, paragraph and report writing
- Resume preparation
- How to read the news paper?
- An Introduction to the History of English Language and Literature
- Basic English Grammar

- Comprehension
- How to use the dictionary?
- Sentence formation and transformation

Outcome

After the completion of the Bridge Course in English, there was a significant progress in the Listening, Speaking, Reading and Writing skills of the students. They were confident to write grammatically correct sentences that are apt to different situations. Students who had tremendous stage fear were able to overcome it and speak fluently in English. They could easily take part in Group Discussions and exhibit their views in English. They got an overall idea regarding English literature thereby bridging the learning gap.



Sreeja. G

Head of Department of English
N.S.S. College, Nemmara
Palakkad - 678 508

Principal - In - Charge
NSS College, Nemmara

BRIDGE COURSE IN ENGLISH(2022-2023)

A Bridge Course in English for newly admitted students is conducted every year before the commencement of the first semester classes by the Department of English. The main objective of the course is to bridge the gap between subjects studied at Higher Secondary level and subjects they would be studying in Graduation. The syllabus for the course is framed in such a way that they get basic knowledge on the subjects that they would be learning through graduation. This two-week student enhancement and development programme is devised for overall grooming and enhancement of the students' fraternity with a special punctuation for students from rural and semi rural community.

Objectives

- To bridge the gap between school and collegiate education to meet the students communicative requirements
- To prepare the students for a classroom atmosphere in which English is the medium of instruction.
- To help the students acquire the basic LSRW skills.

Methodology

A Curriculum is framed separately in each of the subjects, for Bridge Course in English. During the first week after the commencement of the classes, the bridge course curriculum is delivered to the students. A post bridge course test is conducted after the completion of bridge course syllabus to assess the improvement of students.

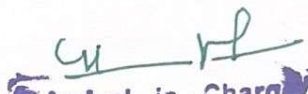
Syllabus for Bridge Course

- Idioms and phrases
- Introduce the world of English Literature to the students
- Listening and speaking skills mainly concentrating on conversation
- Developing listening, reading, writing and speaking skills
- Precise writing, paragraph and report writing
- Resume preparation
- How to read the news paper?
- An Introduction to the History of English Language and Literature
- Basic English Grammar

- Comprehension
- How to use the dictionary?
- Sentence formation and transformation

Outcome

After the completion of the Bridge Course in English, there was a significant progress in the Listening, Speaking, Reading and Writing skills of the students. They were confident to write grammatically correct usages that are apt to different situations. Students who had tremendous stage fear were able to overcome it and speak fluently in English. They could easily take part in Group Discussions and exhibit their views in English. They got an overall idea regarding English literature thereby bridging the learning gap.


Principal - in - Charge
NSS College, Nemmara

BRIDGE COURSE IN ENGLISH

Bridge Course in English for newly admitted students is conducted every year before the commencement of the first semester classes by the Department of English. The main objective of the course is to bridge the gap between subjects studied at Higher Secondary level and subjects they would be studying in Graduation. The syllabus for the course is framed in such a way that they get basic knowledge on the subjects that they would be learning through graduation. This two-week student orientation and development programme is devised for overall grooming and enhancement of the students' fraternity with a special punctuation for students from rural and semi rural community.

Objectives

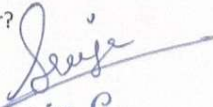
- To bridge the gap between school and collegiate education to meet the students communicative requirements
- To prepare the students for a classroom atmosphere in which English is the medium of instruction.
- To help the students acquire the basic LSRW skills.

Methodology

The curriculum is framed separately in each of the subjects, for Bridge Course in English. During the first week after the commencement of the classes, the bridge course curriculum is delivered to the students. The first bridge course test is conducted after the completion of bridge course syllabus to assess the improvement of students.

Syllabus for Bridge Course

- Basic English Grammar
- Idioms and phrases
- Sentence formation and transformation
- Listening and speaking skills mainly concentrating on conversation
- Developing listening, reading, writing and speaking skills
- Comprehension
- Precise writing, paragraph and report writing
- Resume preparation
- How to use the dictionary?
- How to read the news paper?


Sreeja. G
Head of Department of English
N.S.S. College, Nemmara
Palakkad - 678 508

BRIDGE COURSE IN ENGLISH(2019-2020)

A Bridge Course in English for newly admitted students is conducted every year before the commencement of the first semester classes by the Department of English. The main objective of the course is to bridge the gap between subjects studied at Higher Secondary level and subjects they would be studying in Graduation. The syllabus for the course is framed in such a way that they get basic knowledge on the subjects that they would be learning through graduation. This one week student enhancement and development programme is devised for overall grooming and enhancement of the students' fraternity with a special punctuation for students from rural and semi rural community.

Objectives

- To bridge the gap between school and collegiate education to meet the students communicative requirements
- To prepare the students for a classroom atmosphere in which English is the medium of instruction.
- To help the students acquire the basic LSRW skills.

Methodology

A Curriculum is framed separately in each of the subjects, for Bridge Course in English. During the first week after the commencement of the classes, the bridge course curriculum is delivered to the students. A post bridge course test is conducted after the completion of bridge course syllabus to assess the improvement of students.

Syllabus for Bridge Course

- Idioms and phrases
- Introduce the world of English Literature to the students
- Listening and speaking skills mainly concentrating on conversation
- Developing listening, reading, writing and speaking skills
- Precise writing, paragraph and report writing
- Resume preparation
- How to read the news paper?
- An Introduction to the History of English Language and Literature
- Basic English Grammar

- Comprehension
- How to use the dictionary?
- Sentence formation and transformation

Outcome

After the completion of the Bridge Course in English, there was a significant progress in the Listening, Speaking, Reading and Writing skills of the students. They were confident to write grammatically correct usages that are apt to different situations. Students who had tremendous stage fear were able to overcome it and speak fluently in English. They could easily take part in Group Discussions and exhibit their views in English. They got an overall idea regarding English literature thereby bridging the learning gap.

BRIDGE COURSE IN ENGLISH(2018-2019)

A Bridge Course in English for newly admitted students is conducted every year before the commencement of the first semester classes by the Department of English. The main objective of the course is to bridge the gap between subjects studied at Higher Secondary level and subjects they would be studying in Graduation. The syllabus for the course is framed in such a way that they get basic knowledge on the subjects that they would be learning through graduation. This one week student enhancement and development programme is devised for overall grooming and enhancement of the students' fraternity with a special punctuation for students from rural and semi rural community.

Objectives

- To bridge the gap between school and collegiate education to meet the students communicative requirements
- To prepare the students for a classroom atmosphere in which English is the medium of instruction.
- To help the students acquire the basic LSRW skills.

Methodology

A Curriculum is framed separately in each of the subjects, for Bridge Course in English. During the first week after the commencement of the classes, the bridge course curriculum is delivered to the students. A post bridge course test is conducted after the completion of bridge course syllabus to assess the improvement of students.

Syllabus for Bridge Course

- Idioms and phrases
- Introduce the world of English Literature to the students
- Listening and speaking skills mainly concentrating on conversation
- Developing listening, reading, writing and speaking skills
- Precise writing, paragraph and report writing
- Resume preparation
- How to read the news paper?
- An Introduction to the History of English Language and Literature
- Basic English Grammar

- Comprehension
- How to use the dictionary?
- Sentence formation and transformation

Outcome

After the completion of the Bridge Course in English, there was a significant progress in the Listening, Speaking, Reading and Writing skills of the students. They were confident to write grammatically correct usages that are apt to different situations. Students who had tremendous stage fear were able to overcome it and speak fluently in English. They could easily take part in Group Discussions and exhibit their views in English. They got an overall idea regarding English literature thereby bridging the learning gap.

N.S.S. COLLEGE NEMMARA
POST GRADUATE DEPARTMENT OF COMMERCE AND
MANAGEMENT STUDIES


B. Com - Bridge Course Syllabus

Time: 10 Hours per week

Course objective: To address gaps in student's knowledge and skills particularly as they transform from Plus two to Degree

Module I: Introduction to management; Managerial Economics- basic concepts and theories; Basics of financial accounting; Marketing concept and marketing mix; concept of interest, discounting and compounding; Communication in the business. (5 hours)

Module II: Introduction to IFRS; concept of finance in business; introduction to business Law; concept of entrepreneur; introduction to banking and insurance; introduction to cost accounting; Features of Companies Act, 2013; introduction to quantitative techniques in business; introduction to Human Resource management; concept of business Research; concept of operations Management; meaning of organizational behaviour; techniques of Operations Research (basic introduction only); concept of project life cycle; concept of Income Tax; introduction to financial system and financial services; introduction to investment environment (15 hours)


VIJESH VENUGOPAL
Assistant Professor & Head
Post Graduate Department of Commerce
and Management Studies
N.S.S College Nemmara, Paikkad - 678508


PRINCIPAL
N.S.S.COLLEGE, NEMMARA




N.S.S. COLLEGE NEMMARA
POST GRADUATE DEPARTMENT OF COMMERCE AND
MANAGEMENT STUDIES
BBA - Bridge Course Syllabus

Time: 10 Hours per week

Course objective: To address gaps in student's knowledge and skills particularly as they transform from Plus two to Degree

Module I: Introduction to management; Managerial Economics- basic concepts and theories; Basics of financial accounting; Marketing concept and marketing mix; concept of interest, discounting and compounding; Communication in the business. (5 hours)

Module II: Introduction to IFRS; concept of finance in business; introduction to business Law; concept of entrepreneur; introduction to banking and insurance; introduction to cost accounting; Features of Companies Act, 2013; introduction to quantitative techniques in business; introduction to Human Resource management; concept of business Research; concept of operations Management; meaning of organizational behaviour; techniques of Operations Research (basic introduction only); concept of project life cycle; concept of Income Tax; introduction to financial system and financial services; introduction to investment environment (15 hours)


VIJESH VENUGOPAL
Assistant Professor & Head
Post Graduate Department of Commerce
and Management Studies
N.S.S College Nemmara, Palakkad - 678508


PRINCIPAL
N.S.S.COLLEGE, NEMMARA



N.S.S. College, Nemmara
Department of Chemistry, Bridge Course 2023 – 2024
Syllabus – Periodic Table

Unit 1: Importance of Classification of Elements (4 hours)

Identification of elements with similar physical and chemical properties, easiness in studying element behaviour, exceptions.

Unit 2: Evolution of Periodic Table (4 hours)

Early attempts of classification like Dobereiner's triads, Newlands' law of octaves and Mendeelev's Periodic Table.

Unit 3: Modern Periodic Table (4 hours)

Mosley's modern law of periodicity, long form of periodic table and its salient features, drawbacks, position of hydrogen and atomic number.

Unit 4: Trends in Periodic Properties (4 hours)

General trends in periodicity of electronegativity, atomic size, oxidation states, reactivity, stability, electro positivity, metallic and non-metallic character, electron affinity.

Unit 5: s, p, d and f blocks (4 hours)

S, p, d and f blocks in periodic table, their salient features, position of lanthanides and actinides.




Principal
N.S.S. College, Nemmara

N.S.S. College, Nemmara

Department of Chemistry

Bridge Course 2024 – 2025

Syllabus – Fundamentals of Organic Chemistry and Colligative Properties

Unit 1: Introduction to Chemistry (4 hours)

Father of Chemistry, History of evolution of Chemistry as central science, contribution of alchemists, accidental discoveries and improvement in existing theories.

Unit 2: Evolution of Organic Chemistry (4 hours)

Discovery of urea and its chemical synthesis, application of organic compounds in real life, extraction of important phytochemicals and its uses to mankind, importance of organic synthetic reactions.

Unit 3: Fundamentals of Organic Chemistry (4 hours)

Concept of substrate, reagent, catalyst and products, reactive intermediates, nomenclature of organic compounds, homologous series, reactivity and stability of organic compounds.

Unit 4: Solutions (4 hours)

Concept of concentration of solution and various ways to express it. Normality, w/w, w/v, mass percentage, molarity, ppm and ppb. Calculations.

Unit 5: Colligative Properties (4 hours)

Introduction to colligative properties, explanation of depression in freezing point, elevation in boiling point, vapour pressure and osmotic pressure.




Principal
N.S.S. College, Nemmara

Syllabus: Bridge Course
1st Semester BSc. Physics
Fundamentals of Physics (20 hours)

Module I

What is Physics, System of measurements: length, time and mass, Units and dimensions of Physical quantities, CGS, MKS and SI systems, Velocity, Displacement, Acceleration, Linear Momentum, Work, Energy, Force and Torque.

Module II

Basic Concepts of Trigonometry, Three-Dimensional Geometry, Vectors, Matrices, Functions, Curves and Surfaces, Derivatives and Integrals.

Module III

Centre of Mass, Motion of Centre of mass, Pure Translational and Rotational motion, Torque and angular momentum, Principle of moments (Moment of Inertia), Radius of Gyration, Generalized Motion.

Module IV

Periodic motion – period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (SHM) and its equation; phase; oscillations of a spring – restoring force and force constant.

Reference books

Mathematical Physics - B. D. Gupta

Mechanics - D. S. Mathur

Properties of Matter and Acoustics – Murughesan and K Sivaprasad



SYLLABUS OF BRIDGE COURSE ZOOLOGY

Introduction:

Welcome to the Bridge Course in Zoology! This course is designed for students transitioning from Class 12 to B.Sc. I Zoology. While you may be familiar with the concept of zoology, the B.Sc. program delves deeper into various aspects of the animal kingdom. This bridge course aims to:

- **Review and solidify your foundational knowledge** of zoological concepts.
- **Introduce you to new topics and the B.Sc. I syllabus** to ease your transition.
- **Familiarize you with key terms** used throughout the program.

Course outcomes:

By the end of this course, you will be able to:

- Understand the fundamental branches of zoology, including taxonomy, cell biology, genetics, physiology, biodiversity, ecology, and physiology..
- Grasp the basic methods and principles of biological science.
- Develop practical biological skills for laboratory work.
- Identify major animal groups and classify them within an evolutionary framework.
- Differentiate animals from other life forms.
- Relate environmental factors to the structure of ecosystems.

Course Details:

- **Duration:** 10 hrs
- **Contact Hours:** As per schedule
- **Beneficiaries:** B.Sc. I Zoology Students
- **Instructor:** Sariga PK & Sunila S
- **Course Syllabus:**

The course will cover the following topics:

- **Unit I: Animal Kingdom**
 - Introduction to different animal phyla: Porifera, Cnidaria (Coelenterata), Ctenophora, Platyhelminthes, Aschelminthes (Nematoda), Annelida, Arthropoda, Mollusca, Echinodermata, and Chordata (including subphyla).
- **Unit II: The Cell**
 - Structure and function of prokaryotic and eukaryotic cells.
 - Major cell organelles: Endoplasmic reticulum, Golgi apparatus, mitochondria, lysosomes, nucleus, and nucleolus.
 - Introduction to DNA, RNA, mitosis, and meiosis.
 - Basic human body systems and their functions.
- **Unit III: Environmental Biology**
 - The Earth's spheres: Lithosphere, hydrosphere, atmosphere (with layers).
 - Energy flow in ecosystems and energy pyramids.
 - Environmental issues: Global warming, greenhouse effect, and acid rain. (
- **Unit IV: Physiology & Anatomy**

- Body systems: Digestive System , Circulatory System, Respiratory System, Nervous System, muscular system

Materials and Methods:

- Videos and presentations will be used to introduce key concepts.
- Interactive sessions will facilitate learning and discussion.
- Textbooks and other resources will be provided for further reference.
- Practical sessions (if applicable) will introduce basic laboratory techniques.

Conclusion:

Upon successful completion of this course, you will be equipped with a stronger foundation in zoological concepts and terminology. You will be more confident in tackling the B.Sc. I syllabus and prepared for practical laboratory work.



Principal
NSS College, Nerttara

BRIDGE COURSE SYLLABUS
“Instrumentation Fundamentals : Bridging the Gap”
(Duration: 20 hours)

Course Outcomes

The bridge course is conducted to:

- Bridge the gap between subjects studied at higher secondary level and subjects they would be studying in Graduation.
- It helps the students acquire the fundamental concepts of Physics, Mathematics and Computer Science.

Basic Mathematics

Calculus – Standard limits. Differentiation – Basic theorems, Standard results. Integration – Basic theorems, Standard results. Properties of definite integrals. Basic concepts of the measures of Central tendency. Solving the system of equations.

Basic Semi conductor Physics

Semiconductor, Bonds in semiconductors, Crystals, Commonly used Semiconductors, Energy Band description of semiconductors , Effect of Temperature on Semiconductors, Hole Current , Intrinsic Semiconductor, Extrinsic Semiconductor, p and n type semiconductors, Majority and minority carriers, pn junction and its properties ,Current flow in a Forward Biased pn-junction, Volt –Ampere Characteristics of pn junction.

Basic Computer Science

Computer Hardware, Input and Output devices, Functions of a Computer, Basic abbreviations used in Information Technology, Computer memory and basic computer organization, Number system, Basic conversions between different number systems, History of Computers, Generation of Computers, Keyboard shortcut keys, Classification of languages, language translators, Introduction to Computer Network, Types of Networks and Network topologies.

NSS COLLEGE NEMMARA
DEPARTMENT OF BOTANY
BRIDGE COURSE FOR B.SC. BOTANY (CORE COURSE)
INTRODUCTION TO PLANT SCIENCE
Total Hours: 20 Hours

Module I - PLANT KINGDOM

Salient features and classification of plants into major groups- Algae, Fungi, Lichens, Bryophytes, Pteridophytes, Gymnosperm and Angiosperm (three to five salient and distinguishing features and at least two examples of each category); Angiosperms- classification up to class, characteristic features and examples. **(3hrs)**

Module II – REPRODUCTION IN ANGIOSPERMS

Flower structure; development of male and female gametophytes; pollination – types, agencies and examples; out breeding devices; pollen-pistil interaction; double fertilization; post fertilization events – development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation. **(4hrs)**

Module III – ECOLOGY

Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy; Biodiversity-Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries. **(4hrs)**

Module IV – CYTOLOGY

Structure of prokaryotic and eukaryotic cell; Plant cell and animal cell; Cell envelope, cell membrane, cell wall; Cell organelles– structure and function; Cell division : Cell cycle, mitosis, meiosis and their significance. **(3hrs)**

Module V – GENETICS

Mendelian inheritance; multiple alleles and inheritance of blood groups; Mendelian disorders in humans – thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndrome. **(2hrs)**

Module VI – MOLECULAR GENETICS AND EVOLUTION

Structure of DNA and RNA; DNA packaging; DNA replication; Central Dogma; genetic code, Evolution-Origin of life, Darwin's contribution, mechanism of evolution – variation and natural selection with examples; Gene flow and genetic drift.


PRINCIPAL
N.S.S. COLLEGE, NEMMARA

(4hrs)

NSS COLLEGE, NEMMARA
DEPARTMENT OF ECONOMICS
SYLLABUS OF THE BRIDGE COURSE IN ECONOMICS – 2023-24

MODULE I – DEMAND ANALYSIS

Concept of Demand – demand function – determinants of demand – law of demand – inverse demand function – demand schedule – demand curve – why demand curve slopes downwards- market demand- changes in demand

MODULE II – SUPPLY ANALYSIS

Concept of supply – supply function – determinants of supply – law of supply – supply schedule and supply curve – market supply – changes in supply

MODULE III – UTILITY ANALYSIS

Cardinal utility – marginal and total utility – the law of diminishing marginal utility – the law of equi-marginal utility – ordinal utility – the indifference curve analysis – budget line – consumer equilibrium through ordinal approach- price effect