

Singhania University

(UGC- recognized university per section 2(f) of the UGC Act 1956)

COURSE OUTLINE

COURSE TITLE	BOTANY ((BIODIVERSITY)
Course Code	BOT-01
Credits	4 (L: 3 ,P:2 ,5)
Faculty Name	Dr. PREETI SENGAR GARG
Program	Bachelor of life science
Academic Year and Semester	w.e.f. 2024-25, 1 st Semester

1. Course Description

different variety of plant and Differentiate (Microbes, Algae, Fungi and Archegoniate)

2. At the end of this course, students should be able to:

1. Understand the different variety of plant .
2. Differentiate (Microbes, Algae, Fungi and Archegoniate
3. Familiar about their family , class and examples

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

Session plan will be provided by faculty members according to the syllabus.

5. Evaluation:

COMPONENT	WEIGHTAGE	DETAILS
Assignment	10%	Sheet Work(A-4 Size sheet in a well mannered way)
Tests	10%	Test would be taken to assess the knowledge about topics related to daily basis classes.

Attendance & Classroom participation	10%	Students should have at least 75% attendance
Mid- Sem Exam	20%	Mid term exam must be cleared by students for appearing in final examination.
End- Sem Exam	50%	The end term exam must be cleared for appearing in next semester with a minimum passing criteria .

6. Academic Integrity:

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COURSE TITLE	Chemistry (organic)
Course Code	CHE-01
Credits	4 (L: 3 ,P:2 ,5)
Faculty Name	Dr. SARITA TIWARI
Program	Bachelor of life Science

Academic Year and Semester	w.e.f. 2024-25, 1 st sem
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1. Course Description

Chemistry is an essential program in life Science . The objective of this subject is to enable the students to prepare solution for the mathematics problems with the connection in real life.

2. Student Learning Outcomes :

At the end of this course, students should be able to:

After completing this course, the learner will be able to:

1. Enable to understand the basis of quantum mechanics and structural idea and relevance in describing shapes of s, p and d orbitals.
2. To learn about role of temperature and pressure to establish the state of gases and describe the concept of critical constants of real gases.
3. Get knowledge about the electrophile/nucleophile and its role in mechanism of preparation of organic compounds. To know the physical properties, morphology and crystalline study of liquid and different type of solids

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

Session plan will be provided by faculty members according to the syllabus.

5. Evaluation:

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COURSE TITLE	ZOOLOGY (animal diversity)
Course Code	Zoo-01
Credits	2 (L: 1 ,P: 1,2)
Faculty Name	Dr. Yogesh kumar
Program	Bachelor of Life Science
Academic Year and Semester	w.e.f. 2024-25, 1 st Semester

1. Course Description

Zoology is a program in life Science . The objective of this subject is to enable the students to prepare data in a best way.

2. Student Learning Outcomes :

At the end of this course, students should be able to:

. After completing this course,the learner will be able to:

1. Understand the different group of animal kingdom
2. Differentiate – invertebrates , vertebrates and chordates

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

- Session plan will be provided by faculty members according to the syllabus.

5. Evaluation:

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Assignment	10%	Sheet Work(A-4 Size sheet in a well mannered way)
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COURSE TITLE	Botany(biotechnology)
Course Code	BT-M1
Credits	4 (L:3 ,T:1, 4)
Faculty Name	Dr. PRABHAT TRIPATHI
Program	Bachelor of LIFE SCIENCE
Academic Year and Semester	w.e.f. 2024-25, 1 st Semester

1. Course Description

Botany(biotechnology) is an minorl program in bachelor of life science .The objective of this is to enable the students to ensure the connection of daily life in biotechnology field .

2. Student Learning Outcomes :

At the end of this course, students should be able to:

1. learn different type of vaccine and medicine preparation and role of biotechnology in genetic engineering

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

- Session plan will be provided by faculty members according to the syllabus.

5. Evaluation:

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COURSE TITLE	Zoology (Reproductive biology)
Course Code	ZOO-M1
Credits	2 (L:1 ,T:1, 2)
Faculty Name	Dr. YOGESH KUMAR
Program	Bachelor of Life Science
Academic Year and Semester	w.e.f. 2024-25, 1 st Semester

1. Course Description

Reproductive biology is a “minor program” in bachelor of life science.

2. Student Learning Outcomes :

At the end of this course, students should be able to:

1 After completing this course, the learner will demonstrate knowledge of: Reproduction in various animals

3 Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

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5. Evaluation:

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COURSE TITLE	Bio-Chemistry(Biochemical Insights in to the Human Body)
Course Code	MDC-101
Credits	3 (T:3 P:0,3)
Faculty Name	Dr. SUMER SINGH
Program	Bachelor of LIFE SCIENCE
Academic Year and Semester	w.e.f. 2024-25, 1 st Semester

1. Course Description

Bio-Chemistry(Biochemical Insights in to the Human Body) is” **multi disciplinary**” subject in bachelor of life science .

2. Student Learning Outcomes :

At the end of this course, students should be able to:

1. Learn and correlate the biochemistry and human biology; illustrate role of biomolecules in body.
2. Understand the biochemical nature and functions of hormones.
3. Learn to correlate the cellular metabolism and energy production
4. Know the various applications of biochemistry in industrial & medical sector.
- 5*. Acquire knowledge and hands-on training of analytical tools of biochemistry & understanding of good laboratory practices; learn qualitative aspects of various biomolecules

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

- Session plan will be provided by faculty members according to the syllabus.

5. Evaluation:

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COURSE TITLE	Botany –9plant ecology and taxonomy)
Course Code	BOT-02
Credits	4 (L:3 ,T:1 ,4)
Faculty Name	Dr. PREETI SENGAR GARG
Program	Bachelor of LIFE SCIENCE
Academic Year and Semester	w.e.f. 2024-25, 2 nd Semester

1. Course Description

Botany –plant ecology and taxonomy)is an essential program in bachelor of life science .

2. Student Learning Outcomes :

At the end of this course, students should be able to:

1. ecological factors , community and ecosystem and various impact of factors on ecosystem
- 2*. Student will gain the knowledge about the practical aspects related to identification, structure, economic values of microorganisms, algae, fungi, bryophytes, pteridophytes gymnosperms, and angiosperms

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

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5. Evaluation:

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COURSE TITLE	Zoology (COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTIBRATES)
Course Code	ZOO-M2
Credits	3(L:2,T:1,3)
Faculty Name	Dr. SUMER SINGH
Program	Bachelor of life science
Academic Year and Semester	w.e.f. 2024-25, 2 nd Semester

1. Course Description:

COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTIBRATES IS A MAJOR **course**” in bachelor of life science.

2. Student Learning Outcomes :

At the end of this course, students should be able to:

1. Gain knowledge of different developmental stage of vertebrae

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

- Session plan will be provided by faculty members according to the syllabus.

5. Evaluation:

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COURSE TITLE	Chemistry(PhysicalChemistry-I)
Course Code	CH-02
Credits	3(L:2,T:1 ,3)
Faculty Name	Dr. yogesh kumar
Program	Bachelor of life science
Academic Year and Semester	w.e.f. 2024-25, 2 nd Semester

1. Course Description:

Physical chemistry is a major programme of bachelor of life science .

2. Student Learning Outcomes :

At the end of this course, students should be able to:

1. Get the knowledge of concepts of rates of chemical reactions and its application in determination of order of various reactions.
2. Get the knowledge of various thermodynamic variables and properties.
3. To learn about the concepts of physical and thermodynamic functions in different reversible reactions and get the knowledge of molecular structure.
4. To learn about the various properties of molecules related to its magnetic behavior.
- 5*. Hand on practice in preparation of solutions, compounds, estimation and determination of physical properties of some compounds

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

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5. Evaluation:

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COURSE TITLE	Zoology (Physiology and biochemistry)
Course Code	Zoo-02
Credits	4(L:3 , T: 1 , 4)
Faculty Name	Dr. PAWAN TRIPATHI
Program	Bachelor of life science
Academic Year and Semester	w.e.f. 2024-25 2 nd Semester

1. Course Description:

Zoology is a major subject in life science

2. Student Learning Outcomes :

At the end of this course, students should be able to:

Understand the molecular life in detail

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

- Session plan will be provided by faculty members according to the syllabus.

5. Evaluation:

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COURSE TITLE	Chemistry(MinorChemistry-II)
Course Code	CH-M2
Credits	2 (T:2 , P: 0 , 2)
Faculty Name	Dr. sarita tiwari
Program	Bachelor of life science
Academic Year and Semester	w.e.f. 2024-25 2 nd Semester

1. Course Description:

Chemistry(MinorChemistry-II)is “**minor program**” in bachelor of life Science. The objective of this is to enable the students about the different problems.

2. Student Learning Outcomes :

At the end of this course, students should be able to:

1. Toknowthebasics ofperiodicpropertiesandhybridization.
2. Tolearnabouttheionicsolids.
3. Understandaboutthesemiconductorsandmetallicbonds.
4. Gettheknowledgeofstereochemistryofsimpleorganicmolecule

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

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COURSE TITLE	Botany(Plants forHuman Welfare)
Course Code	BT-M2
Credits	4 (T:3 , P :1 ,4)
Faculty Name	Dr. preeti sengar
Program	Bachelor in life science
Academic Year and Semester	w.e.f. 2024-25 2 nd Semester

1. Course Description:

Botany(Plants forHuman Welfare) is an essential program in Bachelor in life science The objective of this is to enable the knowledge of different varieties .

2. Student Learning Outcomes :

At the end of this course, students should be able to:

Acquaint the students with the knowledge of series & sequence, single & multiple variable calculus, knowledge of vector calculus and their applications

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

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COURSE TITLE	ZOOLOGY (Cell and molecular biology)
Course Code	ZOO –M2
Credits	4 (T:3 , T :1 ,4)
Faculty Name	Dr. prabhat tripathi
Program	Bachelor in life science
Academic Year and Semester	w.e.f. 2024-25 2 nd Semester

1. Course Description:

ZOOLOGY (Cell and molecular biology) is an essential program in Bachelor in life science. The objective of this is to enable the knowledge of cells and their cell organelles.

2. Student Learning Outcomes :

At the end of this course, students should be able to:

Understand the basic concepts of cell and its cell organelles

3. Required Textbook and Reference Material:

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COURSE TITLE	BOTANY (Economic Botany)
Course Code	BOT–M2
Credits	4 (T:3 , T :1 ,4)
Faculty Name	Dr. prabhat tripathi
Program	Bachelor in life science
Academic Year and Semester	w.e.f. 2024-25 2 nd Semester

1. Course Description:

BOTANY (Economic Botany) is an essential program in Bachelor in life science. The objective of this is to enable the knowledge of different types of plants.

2. Student Learning Outcomes :

At the end of this course, students should be able to:

. UNDERSTAND THE different cultivated plant and yielding plant

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

- Session plan will be provided by faculty members according to the syllabus.

5. Evaluation:

COMPONENT	WEIGHTAGE	DETAILS
Assignment	10%	Sheet Work(A-4 Size sheet in a well mannered way)
Tests	10%	Test would be taken to assess the knowledge about topics related to daily basis classes.
Attendance & Classroom participation	10%	Students should have at least 75% attendance
Mid-Sem Exam	20%	Midterm exam must be cleared by students for appearing in final examination.
End- Sem Exam	50%	The end term exam must be cleared for appearing in next semester with a minimum passing criteria .

6. Academic Integrity:

- Please note that students involved in academic dishonesty will receive a **ZERO** grade on the particular component in which the infraction occurred.
- Academic dishonesty consists of misrepresentation by deception or by other fraudulent means. In an academic setting this may take the form of copying or use of unauthorized aids in tests, assignments, examinations, term papers, or cases; plagiarism; talking during in-class examinations; submission of work that is not your own without citation; submission of work generated by another person; aiding and abetting another student's dishonesty; and giving false information for the purpose of gaining credits.

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COURSE TITLE	BOTANY (Biochemistry&Health)
Course Code	MDC-01
Credits	4 (T:3 , T :1 ,4)
Faculty Name	Dr. prabhat tripathi
Program	Bachelor in life science
Academic Year and Semester	w.e.f. 2024-25 2 nd Semester

operate such devices during the session timings will be penalized as per the rules. No discussion or negotiation will be entertained at all with respect to this.

1. Course Description:

BOTANY (Biochemistry&Health) is an essential program in Bachelor in life science The objective of this is to enable the knowledge of different type of chemical used in biology

2. Student Learning Outcomes :

At the end of this course, students should be able to:

1. Exhibit the knowledge of the importance of biochemistry with reference to health.
2. Learn the biochemical functions and role of major and minor nutrients.
3. Know the relationship between biochemistry, exercise and energy metabolism.
4. Understand the Biochemistry of Aging and effect of environmental toxins and pollutants on human health.
5. An understanding of quantitatively analyzing the sample for vitamin, minerals and lactose.

3. Required Textbook and Reference Material:

- Material will be provided by faculty.

4. Session Plan :

- Session plan will be provided by faculty members according to the syllabus.

5. Evaluation:

COMPONENT	WEIGHTAGE	DETAILS
Assignment	10%	Sheet Work(A-4 Size sheet in a well mannered way)
Tests	10%	Test would be taken to assess the knowledge about topics related to daily basis classes.
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