

# **JAYPEE UNIVERSITY ANOOPSHAHR**

## **Faculty of Science**



### **Course Structure**

#### **B.Sc. (Life Sciences)**

#### **As per NEP 2020 based on CBCS**

Based on document on “Curriculum and credit framework for undergraduate programs” released by University Grants Commission on December 7, 2022.

**Academic Batch: 2024-2027/28**

**STRUCTURE OF SYLLABUS**

Semester I										
S. No.	Subject Code	Course Name	L	T	P	Total	Credits	University Category	UGC Category	
1	24H11ZO101	Cytology and Genetics	3	0	0	3	3	Core	DSC/Major	
2	24H17ZO191	Cytology and Genetics Lab	0	0	2	2	1	Core	DSC/Major	
3	24H11CH101	General Chemistry	3	0	0	3	3	Core	DSC/Major	
4	24H17CH191	General Chemistry Lab	0	0	2	2	1	Core	DSC/Major	
5	24H11BT101	Microbiology and Plant Pathology	3	0	0	3	3	Core	DSC/Major	
6	24H17BT191	Microbiology and Plant Pathology Lab	0	0	2	2	1	Core	DSC/Major	
7	24H11MA103	Business Statistics and Logic	3	1	0	4	4	Core	Minor	
8	24H11CO108	Digital Marketing	3	0	0	3	3	Core	SEC	
9	24H11GE101	Constitution and Development	3	0	0	3	3	Core	VAC	
		<b>Total</b>	<b>18</b>	<b>1</b>	<b>6</b>	<b>25</b>	<b>22</b>			

Semester II										
S. No.	Subject Code	Course Name	L	T	P	Total	Credits	University Category	UGC Category	
1	24H11BT201	Archegoniates and Plant Reproduction	3	0	0	3	3	Core	DSC/Major	
2	24H17BT291	Archegoniates and Plant Reproduction Lab	0	0	2	2	1	Core	DSC/Major	
3	24H11ZO201	Biochemistry and Physiology	3	0	0	3	3	Core	DSC/Major	
4	24H17ZO291	Biochemistry and Physiology Lab	0	0	2	2	1	Core	DSC/Major	
5	24H11CH201	Bioorganic and Medicinal Chemistry	3	0	0	3	3	Core	DSC/Major	
6	24H17CH291	Bioorganic and Medicinal Chemistry Lab	0	0	2	2	1	Core	DSC/Major	
7	24H11BB205	Business Communication-II	1	1	0	2	2	Core	AEC	
8	24H11CS202	Computer Application	3	0	0	3	3	Core	Minor	
9	24H17CS263	Computer Application Lab	0	0	2	2	1	Core	Minor	
		<b>Total</b>	<b>13</b>	<b>1</b>	<b>8</b>	<b>22</b>	<b>18</b>			

DSC: Discipline Specific Core, SEC: Skill Enhancement Course, VAC: Value Added Course, AEC: Ability Enhancement Course

Semester III									
S. No.	Subject Code	Course Name	L	T	P	Total	Credits	University Category	UGC Category
1	24H11BT301	Plant Anatomy and Taxonomy	3	0	0	3	3	Core	DSC/Major
2	24H17BT391	Plant Anatomy and Taxonomy Lab	0	0	2	2	1	Core	DSC/Major
3	24H11ZO301	Molecular Biology and Bioinstrumentation	3	0	0	3	3	Core	DSC/Major
4	24H17ZO391	Molecular Biology and Bioinstrumentation Lab	0	0	2	2	1	Core	DSC/Major
5	24H11CH301	Chemical Dynamics & Coordination Chemistry	3	0	0	3	3	Core	DSC/Major
6	24H17CH391	Chemical Dynamics & Coordination Chemistry Lab	0	0	2	2	1	Core	DSC/Major
7	24H11CO306	E-Commerce	3	0	0	3	3	Core	SEC
8	24H11HS301	Communicative English	4	0	0	4	4	Core	Minor
9	24H11LS301	Environmental Sciences	3	0	0	3	3	Core	VAC
		<b>Total</b>	<b>19</b>	<b>0</b>	<b>6</b>	<b>25</b>	<b>22</b>		

Semester IV									
S. No.	Subject Code	Course Name	L	T	P	Total	Credits	University Category	UGC Category
1	24H11BT401	Plant Physiology and Biochemistry	3	0	0	3	3	Core	DSC/Major
2	24H17BT491	Plant Physiology and Biochemistry Lab	0	0	2	2	1	Core	DSC/Major
3	24H11ZO401	Biotechnology	3	0	0	3	3	Core	DSC/Major
4	24H17ZO491	Biotechnology Lab	0	0	2	2	1	Core	DSC/Major
5	24H11CH401	Quantum Mechanics and Analytical Techniques	3	0	0	3	3	Core	DSC/Major
6	24H17CH491	Quantum Mechanics and Analytical Techniques Lab	0	0	2	2	1	Core	DSC/Major
7	24H11LS401	Nanotechnology	4	0	0	4	4	Core	Minor
8	24H11HS401	Academic Writing	2	0	0	2	2	Core	AEC
9	24H11BB411	Public Policy and Management	3	0	0	3	3	Core	MDC
		<b>Total</b>	<b>18</b>	<b>0</b>	<b>6</b>	<b>24</b>	<b>21</b>		

DSC: Discipline Specific Core, SEC: Skill Enhancement Course, VAC: Value Added Course, AEC: Ability Enhancement Course, MDC: Multi-Disciplinary Course

Semester V										
S. No.	Subject Code	Course Name	L	T	P	Total	Credits	University Category	UGC Category	
1	24H11BT501	Plant Genetics and Molecular Biology	3	0	0	3	3	Elective	DSE/Major	
2	24H17BT591	Plant Genetics and Molecular Biology Lab	0	0	2	2	1	Elective	DSE/Major	
3	24H11ZO501	Diversity of Non-chordates and Economic Zoology	3	0	0	3	3	Elective	DSE/Major	
4	24H17ZO591	Diversity of Non-chordates and Economic Zoology Lab	0	0	2	2	1	Elective	DSE/Major	
5	24H11CH501	Organic Synthesis	3	0	0	3	3	Elective	DSE/Major	
6	24H17CH591	Organic Synthesis Lab	0	0	2	2	1	Elective	DSE/Major	
7	24H11LS501	Analytical Techniques	4	0	0	4	4	Core	Minor	
8	23H11VO301	Workshop Practices	0	1	4	5	3	Core	SEC	
9	24H11HS501	English Phonetics	2	0	0	2	2	Core	AEC	
10	24H11BB511	Intellectual Property Rights	3	0	0	3	3	Core	MDC	
11	24H19LS501	Summer Internship	2	0	0	2	2	Core	Summer Internship	
		<b>Total</b>								

- Total credits assigned to semester V are 22.
- Students have to opt any two subjects from the above mentioned groups, i.e., ZO, CH and BT of 4 credits each (Total: 8 credits).
- Students have to complete Summer Internship of 2 credits in any one subjects from the above mentioned groups, i.e., ZO, CH and BT.

DSE: Discipline Specific Elective, SEC: Skill Enhancement Course, VAC: Value Added Course, AEC: Ability Enhancement Course, MDC: Multi-Disciplinary Course

Semester VI									
S. No.	Subject Code	Course Name	L	T	P	Total	Credits	University Category	UGC Category
1	24H11BT601	Plant Biotechnology	3	0	0	3	3	Elective	DSE/Major
2	24H17BT691	Plant Biotechnology Lab	0	0	2	2	1	Elective	DSE/Major
3	24H11ZO601	Diversity of Chordates and Comparative anatomy	3	0	0	3	3	Elective	DSE/Major
4	24H17ZO691	Diversity of Chordates and Comparative anatomy Lab	0	0	2	2	1	Elective	DSE/Major
5	24H11CH601	Rearrangements and Chemistry of Group Elements	3	0	0	3	3	Elective	DSE/Major
6	24H17CH691	Rearrangements and Chemistry of Group Elements Lab	0	0	2	2	1	Elective	DSE/Major
7	24H11LS601	Research Methodology	4	0	0	4	4	Core	Minor
8	24H11HS601	Digital Literacy	2	0	0	2	2	Core	AEC
9	23H11VO201	Finance for Non-Finance People	3	0	0	3	3	Core	MDC
10	24H19ZO691	Project I	0	0	4	4	2	Elective	Project
	24H19BT691								
	24H19CH691								
		<b>Total</b>							

- Total credits assigned to semester VI are 19.
- Students have to opt any two subjects from the above mentioned groups, i.e., ZO, CH and BT of 4 credits each (Total: 8 credits).
- Students have to complete Project of 2 credits in any one subjects from the above mentioned groups, i.e., ZO, CH and BT.

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**Students have to earn a total of 124 credits for award of B.Sc. Degree in Life Sciences**

HOD	Faculty In-charge	Dean (Academics)	Vice-Chancellor

Semester VII										
S. No.	Subject Code	Course Name	L	T	P	Total	Credits	University Category	UGC Category	
1	24H11BT701	Recombinant DNA Technology	3	0	0	3	3	Elective	DSE/Major	
2	24H17BT791	Recombinant DNA Technology Lab	0	0	2	2	1	Elective	DSE/Major	
3	24H11BT702	Advanced Physiology and Biochemistry	3	0	0	3	3	Elective	DSE/Major	
4	24H17BT792	Advanced Physiology and Biochemistry Lab	0	0	2	2	1	Elective	DSE/Major	
5	24H11BT703	Principles of Ecology and Environmental Science	3	0	0	3	3	Elective	DSE/Major	
6	24H17BT793	Principles of Ecology and Environmental Science Lab	0	0	2	2	1	Elective	DSE/Major	
7	24H11ZO701	Biosystematics and Taxonomy	3	0	0	3	3	Elective	DSE/Major	
8	24H17ZO791	Biosystematics and Taxonomy Lab	0	0	2	2	1	Elective	DSE/Major	
9	24H11ZO702	Organic Evolution	3	0	0	3	3	Elective	DSE/Major	
10	24H17ZO792	Organic Evolution Lab	0	0	2	2	1	Elective	DSE/Major	
11	24H11ZO703	Developmental Biology	3	0	0	3	3	Elective	DSE/Major	
12	24H17ZO793	Developmental Biology Lab	0	0	2	2	1	Elective	DSE/Major	
13	24H11CH701	Reagents and Heterocyclic Chemistry	3	0	0	3	3	Elective	DSE/Major	
14	24H17CH791	Reagents and Heterocyclic Chemistry Lab	0	0	2	2	1	Elective	DSE/Major	
15	24H11CH702	Chemical Energetics	3	0	0	3	3	Elective	DSE/Major	
16	24H17CH792	Chemical Energetics Lab	0	0	2	2	1	Elective	DSE/Major	
17	24H11CH703	Inorganic Materials of Industrial Importance	3	0	0	3	3	Elective	DSE/Major	
18	24H17CH793	Inorganic Materials of Industrial Importance Lab	0	0	2	2	1	Elective	DSE/Major	
19	24H11LS701	Material Sciences	4	0	0	4	4	Core	Minor	
20	24H19ZO791	Project II	0	0	8	8	4	Elective	Project	
	24H19BT791									
	24H19CH791									

- Total credits assigned to semester VII are 20.
- Students have to opt all DSEs in only any one subject from the above mentioned groups, i.e., ZO, CH and BT of 12 credits.
- Students have to complete Project of 4 credits in any one subjects from the above mentioned groups, i.e., ZO, CH and BT.
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Semester VIII									
S. No.	Subject Code	Course Name	L	T	P	Total	Credits	University Category	UGC Category
1	24H11BT801	Genetics, Genomics and Molecular Breeding	3	0	0	3	3	Elective	DSE/Major
2	24H17BT891	Genetics, Genomics and Molecular Breeding Lab	0	0	2	2	1	Elective	DSE/Major
3	24H11BT802	Evolutionary Biology	3	0	0	3	3	Elective	DSE/Major
4	24H17BT892	Evolutionary Biology Lab	0	0	2	2	1	Elective	DSE/Major
5	24H11ZO801	Animal behaviour and Ecology	3	0	0	3	3	Elective	DSE/Major
6	24H17ZO891	Behavioural Ecology Lab	0	0	2	2	1	Elective	DSE/Major
7	24H11ZO802	Parasite Biology	3	0	0	3	3	Elective	DSE/Major
8	24H17ZO892	Parasite Biology Lab	0	0	2	2	1	Elective	DSE/Major
9	24H11CH801	Organometallic Chemistry	3	0	0	3	3	Elective	DSE/Major
10	24H17CH891	Organometallic Chemistry Lab	0	0	2	2	1	Elective	DSE/Major
11	24H11CH802	Bioinorganic chemistry	3	0	0	3	3	Elective	DSE/Major
12	24H17CH892	Bioinorganic chemistry Lab	0	0	2	2	1	Elective	DSE/Major
13	24H11LS801	Sustainable Development	4	0	0	4	4	Core	Minor
15	24H19ZO891	Project III	0	0	16	16	8	Elective	Project
	24H19BT891								
	24H19CH891								
		<b>Total</b>							

- Total credits assigned to semester VIII are 20.
- Students have to opt all DSEs in only any one subject from the above mentioned groups, i.e., ZO, CH and BT of 8 credits.
- Students have to complete Project of 8 credits in any one subjects from the above mentioned groups, i.e., ZO, CH and BT.

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**Students have to earn a total of 164 credits for award of B.Sc. Honours Degree in Life Sciences**

HOD	Faculty In-charge	Dean (Academics)	Vice-Chancellor