

**Scheme of Studies of Four-Years BS Degree Program in Biological Sciences  
as per HEC Undergraduate Education Policy 2020**

Semester	Course Code	Course Title	Credit Hours	Course Type
1 <sup>st</sup>	EW-301	English composition and comprehension (Eng-I)	3(3-0)	Expository Writing
	CV-301	Islamic Studies/Ethics	3(3-0)	Civilizational Studies
	QR-301	Basic Mathematics	3(3-0)	Quantitative Reasoning
	BIOS-301	Origin and Diversity of Life (Disciplinary)	3(3-0)	Minor
	BIOS -302	Animal Anatomy and Histology (Disciplinary)	3(2-1)	Major
<b>Total Credit Hours</b>			<b>15</b>	
2 <sup>nd</sup>	EW-302	Communication and presentation skills (Eng-II)	3(3-0)	Expository Writing
	CV-302	Pakistan Studies	3(3-0)	Civilizational Studies
	NS-309	Introductory Biochemistry	3(2-1)	Natural Sciences
	SS-303	Human Psychology	3(2-1)	Social Sciences
	BIOS-351	Invertebrates and Chordates (Disciplinary)	3(3-0)	Minor
	BIOS-352	General Ecology (Disciplinary)	3(3-0)	Major
<b>Total Credit Hours</b>			<b>18</b>	
3 <sup>rd</sup>	EW-303	Technical Report Writing (Eng-III)	3(3-0)	Expository writing
	QR-302	Introduction to Information & Communication Technology	3(2-1)	Quantitative Reasoning
	NS-310	Introduction to Environmental Sciences	3(2-1)	Natural Sciences
	AH-301/ AH-310	Aesthetic studies/ Basic Chinese Language	3(3-0)	Arts and Humanities
	BIOS-401	Cell Form and Function (Disciplinary)	3(2-1)	Major
<b>Total Credit Hours</b>			<b>15</b>	
4 <sup>th</sup>	SS-000	Marketing	3(2-1)	Social Sciences
	BIOS-451	Mammalian Embryology (Disciplinary)	3(2-1)	Major
	Biotech-554	Research Methodology and skill enhancement	3(3-0)	Major
	AH-302/ AH-310	Introduction to Philosophy/ Chinese Language and society	3(3-0)	Arts and humanities
	BIOS-452	General Pathology (Disciplinary)	3(2-1)	Major
<b>Total Credit Hours</b>			<b>15</b>	
5 <sup>th</sup>	BIOS-501	Molecular Biology	4(3-1)	Major
	BIOS-502	Fundamentals of Microbiology	3(2-1)	Major
	BIOS-503	Pharmacology	3(2-1)	Major
	BIOS-504	Animal Physiology and Endocrinology	4(3-1)	Minor

	BIOS-505	Parasite biology	3(2-1)	Major
	<b>Total credit hours</b>		<b>17</b>	
<b>6<sup>th</sup></b>	BIOS-551	Cell Signaling	3(2-1)	Major
	BIOS-552	Basic Immunology	3(2-1)	Major
	Bot-602	Plant Biochemistry	3(2-1)	Major
	BIOS-553	Histological and Histochemical Techniques	3(3-0)	Major
	BIOS-554	Natural Resource Management	3(3-0)	Major
	<b>Total credit hours</b>		<b>15</b>	
<b>7<sup>th</sup></b>	BIOS-601	Bio-safety and Bio-security	3(2-1)	Major
	BIOS-602	Medical Microbiology	4(3-1)	Major
	BIOS-603	Bioenergetics	3(2-1)	Minor
	BIOS-604	Bioinformatics	3(2-1)	Major
	BIOS-605	Introduction to Epidemiology	3(2-1)	Major
	<b>Total Credit Hours</b>		<b>16</b>	
<b>8<sup>th</sup></b>	BIOS-651	Entomology and Integrated Pest Management	4(3-1)	Major
	Bot-351	Plant Systematics and Anatomy	4(3-1)	Major
	BIOS-652	Project Report + Seminar	6(1-5)	Major
	<b>Total Credit Hours</b>		<b>06</b>	
<b>Accumulative</b>			<b>123</b>	

**Scheme of Studies of the Two-Years Associate Degree Program in Biological Sciences  
as per HEC Undergraduate Education Policy 2020**

Semester	Course Code	Course Title	Credit Hours	Course Type
<b>1<sup>st</sup></b>	EW-301	English composition and comprehension (Eng-I)	3(3-0)	Expository Writing
	CV-301	Islamic Studies/Ethics	3(3-0)	Civilizational Studies
	QR-301	Basic Mathematics	3(3-0)	Quantitative Reasoning
	BIOS-301	Origin and Diversity of Life (Disciplinary)	3(3-0)	Minor
	BIOS -302	Animal Anatomy and Histology (Disciplinary)	3(2-1)	Major
	<b>Total Credit Hours</b>		<b>15</b>	
<b>2<sup>nd</sup></b>	EW-302	Communication and presentation skills (Eng-II)	3(3-0)	Expository Writing
	CV-302	Pakistan Studies	3(3-0)	Civilizational Studies
	NS-309	Introductory Biochemistry	3(2-1)	Natural Sciences
	SS-303	Human Psychology	3(2-1)	Social Sciences
	BIOS-351	Invertebrates and Chordates (Disciplinary)	3(3-0)	Minor
	BIOS-352	General Ecology (Disciplinary)	3(3-0)	Major

	<b>Total Credit Hours</b>		<b>18</b>	
<b>3<sup>rd</sup></b>	EW-303	Technical Report Writing (Eng-III)	3(3-0)	Expository writing
	QR-302	Introduction to Information & Communication Technology	3(2-1)	Quantitative Reasoning
	NS-310	Introduction to Environmental Sciences	3(2-1)	Natural Sciences
	AH-301/ AH-310	Aesthetic studies/ Basic Chinese Language	3(3-0)	Arts and Humanities
	BIOS-401	Cell Form and Function (Disciplinary)	3(2-1)	Major
	<b>Total Credit Hours</b>		<b>15</b>	
<b>4<sup>th</sup></b>	<b>SS-000</b>	<b>Marketing</b>	3(2-1)	Social Sciences
	BIOS-451	Mammalian Embryology (Disciplinary)	3(2-1)	Major
	Biotech-554	Research Methodology and skill enhancement	3(3-0)	Major
	AH-302/ AH-310	Introduction to Philosophy/ Chinese Language and society	3(3-0)	Arts and humanities
	BIOS-452	General Pathology (Disciplinary)	3(2-1)	Major
	<b>Total Credit Hours</b>		<b>15</b>	
<b>Cumulative Total</b>			<b>63</b>	

### Bridging Semester Biological Sciences

Semester	Course Code	Course Title	Credit Hours	Course Type
<b>Bridging Semester</b>	BIOS-301	Origin and Diversity of Life (Disciplinary)	3(3-0)	Minor
	BIOS -302	Animal Anatomy and Histology (Disciplinary)	3(2-1)	Major
	BIOS-351	Invertebrates and Chordates (Disciplinary)	3(3-0)	Minor
	BIOS-352	General Ecology (Disciplinary)	3(3-0)	Major
	BIOS-401	Cell Form and Function (Disciplinary)	3(2-1)	Major
	BIOS-451	Mammalian Embryology (Disciplinary)	3(2-1)	Major
	BIOS-452	General Pathology (Disciplinary)	3(2-1)	Major
<b>Total Credit Hours</b>			<b>21</b>	