

# Bachelor of Science (Honours) in Biochemistry (BSCBCH)

## School of Sciences

The University offers Bachelor of Science(Honours) Degree in the Biochemistry Discipline.

**Objectives:** With a substantial number of courses from the discipline of Biochemistry and a few interdisciplinary and skill enhancing courses, this Bachelor of Science Honours programme is designed to give an in-depth knowledge in Biochemistry while giving the learner an opportunity to explore subjects beyond the discipline. The Honours programme has the following objectives:

1. Introduce the learners to main themes and topics in Biochemistry.
2. Expose the students to work towards ability and skill enhancement through exposure to appropriate courses.
3. Introduce students to reading and writing skills through assignments and laboratory practices appropriate for undergraduate study.
4. Expose the students to the importance of interdisciplinary approach by enabling them to take courses outside their disciplines.

**Eligibility:** 10 + 2 pass (or equivalent from other recognized Boards) with science subjects, namely, Biology, Chemistry and Physics

**Medium of Instruction:** English and Hindi

**Duration:** Minimum 3 Years, Maximum 6 Years; offered in both January and July cycle of admission.

**Fee Structure:** Rs. 43,500/- for full programme to be paid year wise @ Rs. 14,500/- per year. Fee to be paid in 1st year, including Registration Fee of Rs.200/- is Rs.14,700/

**Mode of offering the course:** ODL, Semester system

**Whether lateral entry is allowed or not:** Allowed, as per IGNOU norms

Semester	CORE COURSE (CC) (14) (6 x 14 = 84Cr.)	Discipline Specific Elective (DSE) (4) (6x4=24Cr)	Ability Enhancement Compulsory Course (AECC) (2) (4x2=8Cr)	Skill Enhancement Course (SEC) (2) (4x2 =8Cr)	Generic Elective (GE) (2) (6x4 =24 Cr)	Total Credits per Semester																																										
<b>I</b>	<b>C 1</b>		<b>Environmental Studies</b>		<b>GE-1</b>	<b>22 Credits</b>																																										
	<b>C 2</b>						<b>II</b>	<b>C3</b>		<b>English Communication Skills or</b> fganhHkk"kkvk Sj laizs"k.k		<b>GE-2</b>	<b>22 Credits</b>	<b>C 4</b>		<b>III</b>	<b>C 5</b>			<b>SEC-1</b>	<b>GE-3</b>	<b>28 Credits</b>	<b>C 6</b>		<b>C 7</b>		<b>IV</b>	<b>C 8</b>			<b>SEC-2</b>	<b>GE-4</b>	<b>28 Credits</b>	<b>C 9</b>		<b>C 10</b>		<b>V</b>	<b>C 11</b>	<b>DSE-1</b>				<b>24 Credits</b>	<b>C 12</b>	<b>DSE-2</b>	<b>VI</b>	<b>C 13</b>
<b>II</b>	<b>C3</b>		<b>English Communication Skills or</b> fganhHkk"kkvk Sj laizs"k.k		<b>GE-2</b>	<b>22 Credits</b>																																										
	<b>C 4</b>						<b>III</b>	<b>C 5</b>			<b>SEC-1</b>	<b>GE-3</b>	<b>28 Credits</b>	<b>C 6</b>			<b>C 7</b>						<b>IV</b>	<b>C 8</b>				<b>SEC-2</b>	<b>GE-4</b>					<b>28 Credits</b>	<b>C 9</b>		<b>C 10</b>		<b>V</b>	<b>C 11</b>	<b>DSE-1</b>				<b>24 Credits</b>	<b>C 12</b>	<b>DSE-2</b>	<b>VI</b>
<b>III</b>	<b>C 5</b>			<b>SEC-1</b>	<b>GE-3</b>	<b>28 Credits</b>																																										
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	<b>C 12</b>	<b>DSE-2</b>																																														
<b>VI</b>	<b>C 13</b>	<b>DSE-3</b>				<b>24 Credits</b>																																										

	<b>C 14</b>	<b>DSE-4</b>			
<b>Total</b>	<b>84 credits</b>	<b>24 credits</b>		<b>8 credits</b>	<b>24 credits</b>
					<b>148 Credits</b>

**CCs, DSEs and GEs are six credit courses. SECs and AECC are four Credit courses**

### List of courses for B.Sc. (Honours) Biochemistry

The list of courses available for B.Sc. (Honours) Biochemistry under each of the five categories: Core Courses, Discipline Selective, Availability Enhancement compulsory Courses, Skill Enhancement Courses and Generic Elective is given in the following tables.

#### CORE COURSES

Course Code	Title of the Course	No. of Credits	Remarks
BBCCT-101	Molecules of Life	4	} To be taken together
BBCCL-102	Molecules of Life : Laboratory	2	
BBCCT-103	Cell Biology	4	} To be taken together
BBCCL-104	Cell Biology : Laboratory	2	
BBCCT-105	Proteins	4	} To be taken together
BBCCL-106	Proteins : Laboratory	2	
BBCCT-107	Enzymes	4	} To be taken together
BBCCL-108	Enzymes : Laboratory	2	
BBCCT-109	Metabolism of Carbohydrates and Lipids	4	} To be taken together
BBCCL-110	Metabolism of Carbohydrates and Lipids : Laboratory	2	
BBCCT-111	Membrane Biology and Bioenergetics	4	} To be taken together
BBCCL-112	Membrane Biology and Bioenergetics: Laboratory	2	
BBCCT-113	Metabolism of Amino Acids and Nucleotides	4	} To be taken together
BBCCL-114	Metabolism of Amino Acids and Nucleotides : Laboratory	2	
BBCCT-115	Human Physiology	4	} To be taken together
BBCCL-116	Human Physiology: Laboratory	2	
BBCCT-117	Gene Organization Replication and Repair	4	} To be taken together
BBCCL-118	Gene Organization	2	

	Replication and Repair: Laboratory		
BBCCT-119	Hormone: Biochemistry and Function	4	} To be taken together
BBCCL-120	Hormone: Biochemistry and Function : Laboratory	2	
BBCCT-121	Concepts in Genetics	4	} To be taken together
BBCCL-122	Concepts in Genetics : Laboratory	2	
BBCCT-123	Gene Expression and Regulation	4	} To be taken together
BBCCL-124	Gene Expression and Regulation : Laboratory	2	
BBCCT-125	Genetic Engineering and Biotechnology	4	} To be taken together
BBCCL-126	Genetic Engineering and Biotechnology : Laboratory	2	
BBCCT-127	Immunology	4	} To be taken together
BBCCL-128	Immunology : Laboratory	2	

#### DISCIPLINE SPECIFIC COURSES

Course Code	Title of the Course	No. of Credits	Remarks
BBCET-141	Nutritional Biochemistry	4	} To be taken together
BBCCL-142	Nutritional Biochemistry)	2	
BBCET-143	Basic Microbiology	4	} To be taken together
BBCCL-144	Basic Microbiology	2	
BBCET-145	Molecular basis of non-infectious human diseases	4	} To be taken together
BBCCL-146	Molecular basis of non-infectious human diseases	2	
BBCET-151	Plant Biochemistry	4	} To be taken together
BBCCL-152	Plant Biochemistry	2	

#### ABILITY ENHANCEMENT COMPULSORY COURSE

Course Code	Title of the Course	No. of Credits
BEVAE 181	Environmental Studies	4
BEGAE 182	English Communication Skills	4

BHDAE 182	fganhHkk"kkvkSjlaizs"k.k	4
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### SKILL ENHANCEMENT COURSES

Course Code	Title of the Course	No. of Credits	Remarks
BBCS-183	Tools and Techniques in Biochemistry	4	
BBCS-185	Bioinformatics	4	

### GENERIC ELECTIVE COURSE

Course Code	Title of the Course	No. of Credits	Remarks
BCHCT 131	Atomic Structure, Bonding, General Organic Chemistry and Aliphatic Hydrocarbons	4	} To be taken together
BCHCL-132	Atomic Structure, Bonding, General Organic Chemistry and Aliphatic Hydrocarbons: Laboratory	2	
BCHET 147	Organometallics, Bioinorganic Chemistry, Polynuclear hydrocarbons and UV, IR Spectroscopy	4	} To be taken together
BCHEL 148	Organometallics, Bioinorganic Chemistry, Polynuclear hydrocarbons and UV, IR Spectroscopy: Laboratory	2	
BBYCT 131	Biodiversity(Microbes, Algae, Fungi and Archegoniatas)	4	} To be taken together
BBYCL 132	Biodiversity(Microbes, Algae, Fungi and Archegoniatas): Laboratory	2	
BZYCT 131	Animal Diversity	4	} To be taken together
BZYCL 132	Animal Diversity: Laboratory	2	

### Semester-wise list of courses for B.Sc. (Honours) Biochemistry

Semester	CORE COURSE (CC)	Discipline Specific Elective (DSE)	Ability Enhancement Compulsory Course (AECC)	Skill Enhancement Course (SEC)	Generic Elective (GE)	Total Credits per Semester
	(14) (6 x14 = 84Cr.)	(4) (6x4=24Cr)	(2) (4x2=8Cr)	(2) (4x2 =8Cr)	(2) (6x4 =24 Cr)	

<b>I</b>	BBCCT-101 BBCCL-102  BBCCT-103 BBCCL-104		BEVAE 181		BCHCT 131 BCHCL-132	<b>22 Credits</b>
<b>II</b>	BBCCT-105 BBCCL-106  BBCCT-107 BBCCL-108		BEGAE 182  OR  BHDAE 182		BCHET 147 BCHCL 148	<b>22 Credits</b>
<b>III</b>	BBCCT-109 BBCCL-110  BBCCT-111 BBCCL-112  BBCCT-113 BBCCL-114			BBCS-183	BBYCT 131 BBYCL 132	<b>28 Credits</b>
<b>IV</b>	BBCCT-115 BBCCL-116  BBCCT-117 BBCCL-118  BBCCT-119 BBCCL-120			BBCS-185	BZYCT 131 BZYCL 132	<b>28 Credits</b>
<b>V</b>	BBCCT-121 BBCCL-122  BBCCT-123 BBCCL-124	BBCET-141 BBCEL-142  BBCET-145 BBCEL-146				<b>24 Credits</b>
<b>VI</b>	BBCCT-125 BBCCL-126  BBCCT-127 BBCCL-128	BBCET-143 BBCEL-144  BBCET-151 BBCEL-152				<b>24 Credits</b>
<b>Total</b>	<b>84 credits</b>	<b>24 credits</b>		<b>8 credits</b>	<b>24 credits</b>	<b>148 Credits</b>