



# AMITY UNIVERSITY

MADHYA PRADESH

*Established vide Government of Madhya Pradesh Act No. 27 of 2010*

**Bachelor of Technology (Biotechnology)**

**Programme Code: BTB**

**Duration – 4 Years Full Time**

**Programme Structure  
And  
Curriculum & Scheme of Examination**

**Batch: 2023 – 2027**

**AMITY UNIVERSITY  
MAHYA PRADESH**



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## PROGRAMME STRUCTURE

### FIRST SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits	Page No.
BTB 101	Applied Mathematics - I	3	1	-	4	
CHE 101	Applied Chemistry	3	1	-	4	
CSE 104	Programming for Problem Solving	2	1	-	3	
BTB 105	Life Sciences-I	2	1	-	3	
CHE 121	Applied Chemistry Lab	-	-	2	1	
CSE 124	Programming for Problem Solving Lab	-	-	4	2	
BTB 123	Engineering Graphics Lab	-	-	2	1	
BCU 141	Communication Skill - I	1	-	-	1	
EVS 142	Environmental Studies - I	2	-	-	2	
BSU 143	Behavioural Science - I	1	-	-	1	
FLU 144	Foreign Language - I					
FLU 145	French - I	2	-	-	2	
FLU 146	German					
FLU 147	Spanish					
FLU 148	Japanese					
FLU 148	Chinese					
	<b>TOTAL</b>				<b>24</b>	

### SECOND SEMESTER

BTB 201	Applied Mathematics – II	3	1	-	4	
PHY 101	Applied Physics - I	3	1	-	4	
CSE 204	Object Oriented Programming Using C++	2	1	-	3	
ECE 101	Basic Electrical Engineering	3	-	-	3	
BTB 206	Life Science-II	3	-	-	3	
PHY 121	Applied Physics Lab – I	-	-	2	1	
CSE 224	Object Oriented Programming Using C++ Lab	-	-	2	1	
ECE 121	Basic Electrical Engineering Lab	-	-	2	1	
BCU 241	Communication Skill - II	1	-	-	1	
EVS 242	Environmental Studies - II	2			2	
BSU 243	Behavioural Science - II	1	-	-	1	
FLU 244	Foreign Language - II					
FLU 245	French - II	2	-	-	2	
FLU 246	German					
FLU 247	Spanish					
FLU 248	Japanese					
FLU 248	Chinese					
	<b>TOTAL</b>				<b>26</b>	



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## TERM PAPER DURING SUMMER BREAK

### THIRD SEMESTER

BTB301	Cell Biology	3	-	-	3	
BTB302	Biochemistry - I	3	-	-	3	
BTB303	Microbiology	3	1	-	4	
BTB304	Molecular Biology	3	1	-	4	
CSE 202	Data Structures Through C++	3	-	-	3	
BTB320	Cell Biology Lab	-	-	2	1	
BTB321	Biochemistry Lab - I	-	-	2	1	
BTB322	Microbiology Lab	-	-	2	1	
BTB323	Molecular Biology Lab	-	-	2	1	
CSE 222	Data Structures Through C++ Lab	-	-	2	1	
BCU341	Communication Skill - III	1	-	-	1	
BSU 343	Behavioural Science - III	1	-	-	1	
FLU 344	Foreign Language - III					
FLU 345	French - III					
FLU 346	German	2	-	-	2	
FLU 347	Spanish					
FLU 348	Japanese					
FLU 348	Chinese					
BTB330	Term Paper (Evaluation)	-	-	-	2	
	<b>TOTAL</b>				<b>28</b>	

### FOURTH SEMESTER

BTB401	Biochemistry – II	3	1	-	4	
BTB402	Genetics	3	1	-	4	
BTB403	Methods & Instrumentation in Biotechnology	3	-	-	3	
BTB404	Chemical Biology	2	1	-	3	
CSE 403	Java Programming	3	-	-	3	
BTB420	Biochemistry Lab - II	-	-	2	1	
BTB421	Genetics Lab	-	-	2	1	
BTB422	Methods & Instrumentation in Biotechnology Lab	-	-	2	1	
CSE 423	Java Programming Lab	-	-	4	2	
BCU441	Communication Skill - IV	1	-	-	1	
BSU 443	Behavioural Science - IV	1	-	-	1	
FLU 444	Foreign Language - IV					
FLU 445	French - IV					
FLU 446	German	2	-	-	2	
FLU 447	Spanish					
FLU 447	Japanese					
FLU 448	Chinese					
	<b>TOTAL</b>				<b>26</b>	

### SUMMER PROJECT I – (6 - 8 WEEKS)



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## FIFTH SEMESTER

BTB501	Plant Biotechnology	3	-	-	3	
BTB502	Animal Biotechnology	3	-	-	3	
BTB503	Structural Biology	3	-	-	3	
BTB504	Chemical Engineering Principles	3	-	-	3	
BTB505	Basic Bioanalytical Techniques	3	-	-	3	
CSE510	Advanced Programming through Python	3	-	-	3	
BTB520	Plant Biotechnology Lab	-	-	2	1	
BTB521	Animal Biotechnology Lab	-	-	2	1	
BTB522	Structural Biology Lab	-	-	2	1	
CSE530	Advanced Programming through Python Lab	-	-	2	1	
BCU 541	Communication Skill – V	1	-	-	1	
BSU 543	Behavioural Science – V	1	-	-	1	
FLU 544	Foreign Language – V					
FLU 545	French - V					
FLU 546	German	2	-	-	2	
FLU 547	Spanish					
FLU 548	Japanese					
FLU 548	Chinese					
BTB560	Summer Project – I (Evaluation)	-	-	-	5	
	<b>TOTAL</b>				<b>31</b>	

## SIXTH SEMESTER

BTB601	Recombinant DNA Technology	3	-	-	3	
BTB602	Enzymology & Enzyme Technology	3	-	-	3	
BTB603	Immunology & Immunotechnology	3	1	-	4	
BTB604	Computational Biology	3	-	-	3	
BTB605	Fundamentals of Biochemical Engineering	3	-	-	3	
BTB620	Recombinant DNA Technology Lab	-	-	2	1	
BTB621	Enzymology & Enzyme Technology Lab	-	-	2	1	
BTB622	Immunology & Immunotechnology Lab	-	-	2	1	
BTB623	Computational Biology Lab	-	-	2	1	
BCU 641	Communication Skill - VI	1	-	-	1	
BSU 643	Behavioural Science - VI	1	-	-	1	
FLU 644	Foreign Language -VI					
FLU 645	French - VI					
FLU 646	German	2	-	-	2	
FLU 647	Spanish					
FLU 648	Japanese					
FLU 648	Chinese					
	<b>TOTAL</b>				<b>24</b>	

## SUMMER PROJECT - II – (6 - 8 WEEKS)



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## SEVENTH SEMESTER

BTB701	Bioprocess Technology	3	-	-	3	
BTB702	Downstream Processing	3	-	-	3	
BTB703	Statistics for Biology	3	-	-	3	
	<b>Elective (Anyone of the following 8)</b>					
BTB704	• Biosensors					
BTB705	• Thermodynamics of Biological Systems					
BTB706	• Pharmaceutical Chemistry & Drug Design					
BTB707	• Current Topics in Biotechnology	3	-	-	3	
BTB708	• Environmental Biotechnology					
BTB709	• Bioprocess Plant Design					
BTB710	• Artificial Neural Networks					
CSE 710	Relational Database Management System	3	-	-	3	
BTB720	Bioprocess Technology Lab	-	-	2	1	
BTB721	Downstream Processing Lab	-	-	2	1	
CSE 730	Relational Database Management System Lab	-	-	2	1	
BTB760	Summer Project - II (Evaluation)	-	-	-	6	
	<b>TOTAL</b>				<b>24</b>	

## EIGHTH SEMESTER

BTB801	Genomic & Proteomics	3	1	-	4	
BTB802	Drug Delivery Systems	3	-	-	3	
BCH 621	Management, Accounting & Cost Control	1	-	-	1	
BCH 622	Project Management	1	-	-	1	
BCH 623	Principles of Management & Entrepreneurship Development	1	-	-	1	
CSE 804	ASP.NET	3	-	-	3	
BTB820	Genomic & Proteomics Lab	-	-	2	1	
CSE 824	ASP.NET Lab	-	-	2	1	
BTB860	Major Project (10-12 Weeks)	-	-	-	16	
	<b>TOTAL</b>				<b>31</b>	



**AMITY UNIVERSITY**

MADHYA PRADESH

*Established vide Government of Madhya Pradesh Act No. 27 of 2010*

**Bachelor of Science (Honours) Biotechnology**

**Programme Code: BSB**

**Duration – 3 Years Full Time**

**Programme Structure  
And  
Curriculum & Scheme of Examination**

**Batch: 2023 -2027**

**AMITY UNIVERSITY  
MADHYA PRADESH**

Prof. (Dr.) Vinay Dwivedi  
Director, Amity Institute of Biotechnology  
Amity University, Madhya Pradesh,  
Nagarajpura, Gwalior 474005



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## PROGRAMME STRUCTURE (B.Sc.) Biology

### FIRST SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSC101	Plant Sciences – I	Discipline Specific Course (Core 1)	3	-	-	3
BSC102	Animal Sciences-I	Discipline Specific Course (Core 2)	3	-	-	3
BSC103	Chemistry – I	Discipline Specific Course (Core 3)	3	-	-	3
	<b>Minor Track (CBCS)</b>	Minor 2	2	-	-	2
BSC120	Plant Sciences Lab - I	Discipline Specific Course (Core 1) Lab	-	-	2	1
BSC121	Animal Sciences Lab-I	Discipline Specific Course (Core 2) Lab	-	-	2	1
BSC122	Chemistry Lab – I	Discipline Specific Course (Core 3) Lab	-	-	2	1
<b>BSU143</b>	<b>Behavioural Science I</b>	<b>VAC</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>
BCU141	Communication Skill - I	AEC	2	-	-	2
EVS142	Environmental Studies - I	VAC	2	-	-	2
FLU 144	Foreign Language - I					
FLU 145	French - I					
FLU 146	German					
FLU 147	Spanish					
FLU 148	Japanese					
	Chinese					
	<b>TOTAL</b>					<b>21</b>



## SECOND SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSC201	Plant Sciences – II	Discipline Specific Course (Core 1)	3	-	-	3
BSC202	Animal Sciences-II	Discipline Specific Course (Core 2)	3	-	-	3
BSC203	Chemistry – II	Discipline Specific Course (Core 3)	3	-	-	3
BSC204	Introductory Biochemistry & Biophysics	Inter/ Multi-Disciplinary Course	3	-	-	3
	<b>Minor Track (CBCS)</b>	<b>Minor 2</b>	2	-	-	2
BSC220	Plant Sciences Lab - I	Discipline Specific Course (Core 1) Lab	-	-	2	1
BSC221	Animal Sciences Lab-I	Discipline Specific Course (Core 2) Lab	-	-	2	1
BSC222	Chemistry Lab – I	Discipline Specific Course (Core 3) Lab	-	-	2	1
<b>BSU243</b>	<b>Behavioural Science I</b>	<b>VAC</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>
BCU241	Communication Skill – I	AEC	2	-	-	2
EVS242	Environmental Studies – I	VAC	2	-	-	2
FLU 244	Foreign Language - I					
FLU 245	French - I					
FLU 246	German	SEC	2	-	-	2
FLU 247	Spanish					
FLU 248	Japanese					
	Chinese					
	<b>TOTAL</b>					<b>24</b>

- Vocational training for Certificate in bio-instrumentation (04 Credit).





## THIRD SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSC301	Anatomy & Plant Physiology	Discipline Specific Course (Core 1)	3	-	-	3
BSC302	Animal Physiology-I	Discipline Specific Course (Core 2)	3	-	-	3
BSC303	Chemistry – III	Discipline Specific Course (Core 3)	3	-	-	3
BSC304	Microbiology	Discipline Specific Minor 1	3	-	-	3
	<b>Minor Track (CBCS)</b>	<b>Minor 2</b>	2	-	-	2
BSC320	Anatomy & Plant Physiology Lab	Discipline Specific Course (Core 1) Lab	-	-	2	1
BSC321	Animal Physiology Lab-I	Discipline Specific Course (Core 2) Lab	-	-	2	1
BSC322	Chemistry Lab – III	Discipline Specific Course (Core 3) Lab	-	-	2	1
BSC323	Micrbiology Lab	Discipline Specific Minor 1 Lab	-	-	2	1
BCU341	Communication Skill – III	AEC	2	-	-	2
BSU343	Behavioural Science – III	VAC	1	-	-	1
FLU 344 FLU 345 FLU 346 FLU 347 FLU 348	Foreign Language - III French - III German Spanish Japanese Chinese	SEC	2	-	-	2
	<b>TOTAL</b>					<b>23</b>



## FOURTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSC401	Plant Breeding, Embryology, Pathology & Economic Botany	Discipline Specific Course (Core 1)	3	-	-	3
BSC402	Animal Physiology-II	Discipline Specific Course (Core 2)	3	-	-	3
BSC403	Chemistry – IV	Discipline Specific Course (Core 3)	3	-	-	3
BSC404	Bioinformatics	Discipline Specific Minor 1	3	-	-	3
	<b>Minor Track (CBCS)</b>	<b>Minor 2</b>	<b>2</b>	-	-	2
BSC420	Plant Breeding, Embryology, Pathology & Economic Botany Lab	Discipline Specific Course (Core 1) Lab	-	-	2	1
BSC421	Animal Physiology Lab-II	Discipline Specific Course (Core 2) Lab	-	-	2	1
BSC422	Chemistry Lab-IV	Discipline Specific Course (Core 3) Lab	-	-	2	1
BSC 450	Term Paper/ (Review Article)	AEC	-	-	-	2
BSU443	Behavioral Science - IV	VAC	2	-	-	2
FLU 444 FLU 445 FLU 446 FLU 447 FLU 448	Foreign Language - IV French - IV German Spanish Japanese Chinese	SEC	3	-	-	3
	<b>TOTAL</b>					<b>24</b>

- Vocational training for diploma in clinical biochemistry (4 credit).



## FIFTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSC501	Plant Biotechnology	Discipline Specific Course (Core 1)	3	-	-	3
BSC502	Genetics & Animal Biotechnology	Discipline Specific Course (Core 2)	3	-	-	3
BSC503	Chemistry – V	Discipline Specific Course (Core 3)	3	-	-	3
BSC504	Recombinant DNA Technology	Discipline Specific Minor 1	3	-	-	3
BSC505	Methods & Instrumentation in Biotechnology	Inter/ Multi-Disciplinary Course	3	-	-	3
	Minor Track (CBCS)	Minor 2	2	-	-	2
BSC520	Biotechnology Lab	Discipline Specific Minor 1 Lab	-	-	4	2
BSC521	Chemistry Lab V	Discipline Specific Course (Core 3) Lab	-	-	2	1
	<b>TOTAL</b>					<b>20</b>



## SIXTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSC601	Plant Ecology	Discipline Specific Course (Core 1)	3	-	-	3
BSC602	Applied Zoology	Inter/ Multi-Disciplinary Course	3	-	-	3
BSC603	Chemistry – VI	Discipline Specific Course (Core 2)	3	-	-	3
	Minor Track (CBCS)	Minor 2	2	-	-	2
BSC620	Plant Ecology and Applied Zoology Lab	Discipline Specific Course Core 1 Lab	-	-	4	2
BSC621	Chemistry Lab VI	Discipline Specific Course (Core 2) Lab	-	-	2	1
BSC 660	Project (6-8 Week)	Field Project/ Summer Internship Project	-	-	-	6
	<b>TOTAL</b>					<b>20</b>



## SEVENTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSC 701	Advanced Microbial Technology	Discipline Specific Course (core 1)	3	1	-	4
BSC 702	Advanced Cell Biology and Genetics	Discipline Specific Course (core 2)	3	1	-	4
BSC 703	Advanced Biophysics & Bioanalytical Techniques	Discipline Specific Course (core 3)	3	1	-	4
BSC 704	Advanced Biostatistics for Biologist	Discipline Specific Course (core 4)	3	1	-	4
BSC 720	Advanced Microbial Technology Lab	Discipline Specific Course (core 1) Lab	-	-	2	1
BSC 721	Advanced Cell Biology and Genetics Lab	Discipline Specific Course (core 2) Lab	-	-	2	1
BSC 722	Advanced Biophysics & Bioanalytical Techniques lab	Discipline Specific Course (core 3) Lab	-	-	2	1
	<b>TOTAL</b>					<b>19</b>



## EIGHT SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSC 801	Genomics and Proteomics	Discipline Specific Course (core 1)	3	-	-	3
BSC 802	Drug Delivery System	Discipline Specific Course (core 2)	3	-	-	3
BCH 621	Management Accounting and Cost Control	Inter/ Multi-Disciplinary Course 1	1	-	-	1
BCH 622	Project Management	Inter/ Multi-Disciplinary Course 2	1	-	-	1
BCH 623	Principle of management and Entrepreneurship Development	SEC	1	-	-	1
BSC 860	Project (10-12 Week)	Dissertation	-	-	-	15
	<b>TOTAL</b>					<b>24</b>



**AMITY UNIVERSITY**  
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**Bachelor of Science Biotechnology-3YDC**  
**Bachelor of Science Biotechnology**  
**(Honours with Research)- 4YDC**

**Programme Code: BSB**

**Duration – 3 Years Full Time**

**Duration – 4 Years Full Time**

Programme Structure  
And  
Curriculum & Scheme of Examination

**Batch: 2023 -2026 (3YDC)**

**Batch: 2023 -2026 (4YDC)**

**AMITY UNIVERSITY**  
**MADHYA PRADESH**

*Dwivedi*

Prof. (Dr.) Vinay Dwivedi  
Director, Amity Institute of Biotechnology  
Amity University, Madhya Pradesh,  
Maharajpura, Gwalior-474005



## PROGRAMME STRUCTURE: B.Sc. Biotechnology-3YDC B.Sc. Biotechnology (Honours With Research)-4YDC

### FIRST SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSB 101	Cell Biology	Discipline Specific Course (Core 1)	3	-	-	3
BSB 102	Maths & Biostatistics	Inter/ Multi-Disciplinary Course	3	-	-	3
BSB 103/ BSB 104	Plant Sciences – I/ Animal Sciences-I	Discipline Specific (Elective)	3	-	-	3
BSB 105	Chemistry – I	Discipline Specific (Minor 1)	2	-	-	2
	Minor Track (CBCS)	Minor 2	2	-	-	2
BSB 120	Biotechnology Lab - I	Discipline Specific Course (Core 1) Lab	-	-	2	1
BSB 121	Chemistry Lab – I	Discipline Specific (Minor 1) Lab	-	-	2	1
BSB 122/ BSB 123	Plant Sciences Lab - I / Animal Sciences Lab-I	Discipline Specific (Elective) Lab	-	-	2	1
BCU 141	Communication Skill – I	Ability Enhancement Course (AEC)	2	-	-	2
BSU143	Behavioural Science I	Value Added Course (VAC)	1	-	-	1
EVS 142	Environmental Studies - I	Value Added Course (VAC)	2	-	-	2
FLU 144 FLU 145 FLU 146 FLU 147 FLU 148	Foreign Language - I French - I German Spanish Japanese Chinese	Skill Enhancement Course (SEC)	2	-	-	2
	<b>TOTAL</b>					<b>23</b>

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## SECOND SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSB 201	Bioanalytical Techniques	Discipline Specific Course (core 1)	3	-	-	3
BSB 202	Introductory Biochemistry & Biophysics	Inter/ Multi-Disciplinary Course	3	-	-	3
BSB 203/ BSB 204	Plant Sciences – II/ Animal Sciences-II	Discipline Specific (Elective)	3	-	-	3
BSB 205	Chemistry – II	Discipline Specific (Minor 1)	2	-	-	2
	Minor Track (CBCS)	Minor 2	2	-	-	2
BSB 221	Biotechnology Lab - II	Discipline Specific Course (Core 1) Lab	-	-	2	1
BSB 222/ BSB 223	Chemistry Lab – II	Discipline Specific (Minor 1) Lab	-	-	2	1
BSB 122/ BSB 123	Plant Sciences Lab - II / Animal Sciences Lab-II	Discipline Specific (Elective) Lab	-	-	2	1
BCU 241	Communication Skill – II	Ability Enhancement Course (AEC)	2	-	-	2
BSU243	Behavioural Science I	Value Added Course (VAC)	1	-	-	1
EVS 242	Environmental Studies - II	Value Added Course (VAC)	2	-	-	2
FLU 244 FLU 245 FLU 246 FLU 247 FLU 248	Foreign Language - II French - II German Spanish Japanese Chinese	Skill Enhancement Course (SEC)	2	-	-	2
	<b>TOTAL</b>					<b>22</b>

- Vocational training for Certificate in bio-instrumentation (04 Credit).



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## THIRD SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSB 301	Genetics	Discipline Specific Course (core 1)	3	-	-	3
BSB 302	Microbiology	Discipline Specific Course (core 2)	3	-	-	3
BSB 303/ BSB 304	Anatomy & Plant Physiology/ Animal Physiology-I	Discipline Specific (Elective)	3	-	-	3
BSB 305	Chemistry – III	Discipline Specific (Minor 1)	2	-	-	2
	Minor Track (CBCS)	Minor 2	2	-	-	2
BSB 320	Biotechnology Lab - II	Discipline Specific Course (Core 1) Lab	-	-	2	1
BSB 321	Anatomy & Plant Physiology Lab/ Animal Physiology Lab-I	Discipline Specific (Elective) Lab	-	-	2	1
BSB 322	Chemistry Lab – II	Discipline Specific (Minor 1) Lab	-	-	2	1
BCU 341	Communication Skill – III	Ability Enhancement Course (AEC)	2	-	-	2
BSU343	Behavioural Science – III	Value Added Course (VAC)	1	-	-	1
FLU 344 FLU 345 FLU 346 FLU 347 FLU 348	Foreign Language – III French - III German Spanish Japanese Chinese	Skill Enhancement Course (SEC)	2	-	-	2
	<b>TOTAL</b>					<b>21</b>

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## FOURTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSB 401	Molecular Cell Biology	Discipline Specific Course (core 1)	3	-	-	3
BSB 402	Bioinformatics	Inter/ Multi-Disciplinary Course	3	-	-	3
BSB 403/ BSB 404	Plant Breeding, Embryology, Pathology & Economic Botany/ Animal Physiology-II	Discipline Specific (Elective)	3	-	-	3
BSB 405	Chemistry – IV	Discipline Specific (Minor 1)	3	-	-	3
	Minor Track (CBCS)	Minor 2	2	-	-	2
BSB 420	Biotechnology Lab - IV	Discipline Specific Course (Core 1) Lab	-	-	2	1
BSB 421/ BSB 422	Plant Breeding, Embryology, Pathology & Economic Botany Lab/ Animal Physiology Lab-II	Discipline Specific (Elective) Lab	-	-	2	1
BSB 450	TERM PAPER/ Review Article	AEC	2	-	-	2
BSB-440	Behavioural Science – IV	VAC	2	-	-	2
FLU 444 FLU 445 FLU 446 FLU 447 FLU 448	Foreign Language – IV French - IV German Spanish Japanese Chinese	Skill Enhancement Course (SEC)	3	-	-	3
	<b>TOTAL</b>					<b>23</b>

- Vocational training for diploma in clinical biochemistry (4 credit).

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## FIFTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSB 501	Plant Biotechnology	Discipline Specific Course (core 1)	3	-	-	3
BSB 502	Animal Biotechnology	Discipline Specific Course (core 2)	3	-	-	3
BSB 503	Biochemistry and Metabolic Regulation	Discipline Specific Course (core 3)	3	-	-	3
BSB 504	Recombinant DNA Technology	Discipline Specific Course (core 4)	3	-	-	3
BSB-505	Enzyme Technology	Inter/ Multi-Disciplinary Course	2	-	-	2
	<b>Minor Track (CBCS)</b>	<b>Minor 2</b>	3	-	-	3
BSB- 521	Plant Biotechnology Lab	Discipline Specific Course (core 1) Lab	-	-	2	1
BSB-522	Animal Biotechnology lab	Discipline Specific Course (core 2) Lab	-	-	2	1
BSB- 523	Biochemistry and Metabolic Regulation Lab	Discipline Specific Course (core 3) Lab	-	-	2	1
BSB-524	Recombinant DNA Technology Lab	Discipline Specific Course (core 4) Lab	-	-	2	1
	<b>TOTAL</b>					<b>21</b>



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## SIXTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSB 601	Environmental Biotechnology	Discipline Specific Course (core 1)	3	-	-	3
BSB 602	Industrial Biology	Discipline Specific Course (core 2)	3	-	-	3
BSB 603	Immunology & Immunotechnology	Discipline Specific Course (core 3)	3	-	-	3
	Minor Track (CBCS)	Minor 2 (Project)	-	-	-	1
BSB 620	Environmental Biotechnology Lab	Discipline Specific Course (core 1) Lab	-	-	2	1
BSB 621	Industrial Biology lab	Discipline Specific Course (core 2) Lab	-	-	2	1
BSB 623	Immunology and immunology lab	Discipline Specific Course (core 3) Lab	-	-	2	1
BSB 660	Project (6-8 Week)	Field Project/ Summer Internship Project	-	-	-	6
	<b>TOTAL</b>					<b>19</b>



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## SEVENTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSB 701	Advanced Microbial Technology	Discipline Specific Course (core 1)	3	1	-	4
BSB 702	Advanced Cell Biology and Genetics	Discipline Specific Course (core 2)	3	1	-	4
BSB 703	Advanced Biophysics & Bioanalytical Techniques	Discipline Specific Course (core 3)	3	1	-	4
BSB 704	Advanced Biostatistics for Biologist	Discipline Specific Course (core 4)	3	1	-	4
BSB 720	Advanced Microbial Technology Lab	Discipline Specific Course (core 1) Lab	-	-	2	1
BSB 721	Advanced Cell Biology and Genetics Lab	Discipline Specific Course (core 2) Lab	-	-	2	1
BSB 722	Advanced Biophysics & Bioanalytical Techniques lab	Discipline Specific Course (core 3) Lab	-	-	2	1
	<b>TOTAL</b>					<b>19</b>



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## EIGHT SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BSB 801	Genomics and Proteomics	Discipline Specific Course (core 1)	3	-	-	3
BSB 802	Drug Delivery System	Discipline Specific Course (core 2)	3	-	-	3
BCH 621	Management Accounting and Cost Control	Inter/ Multi-Disciplinary Course 1	1	-	-	1
BCH 622	Project Management	Inter/ Multi-Disciplinary Course 2	1	-	-	1
BCH 623	Principle of management and Entrepreneurship Development	SEC	1	-	-	1
BSB 860	Project (10-12 Week)	Dissertation	-	-	-	15
	<b>TOTAL</b>					<b>24</b>



**AMITY UNIVERSITY**  
MADHYA PRADESH

*Established vide Government of Madhya Pradesh Act No. 27 of 2010*

**Bachelor of Science and Master of Science (Biotechnology)**

**"Dual Degree"**

**Programme Code: BMB**

**Duration – 5 Years Full Time**

Programme Structure  
And  
Curriculum & Scheme of Examination

**Batch: 2023 -2028**

Prof. (Dr.) Vinay Dwivedi  
Director, Amity Institute of Biotechnology  
Amity University, Madhya Pradesh  
Neharupura, Gwalior 474005



# AMITY UNIVERSITY MADHYA PRADESH



**AMITY UNIVERSITY**  
MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## PROGRAMME STRUCTURE: B.Sc. Biotechnology-3YDC/ B.Sc. Biotechnology (Honours with Research) -4YDC

### FIRST SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BMB 101	Cell Biology	Discipline Specific Course (Core 1)	3	-	-	3
BMB 102	Maths & Biostatistics	Inter/ Multi-Disciplinary Course	3	-	-	3
BMB 103/ BMB 104	Plant Sciences – I/ Animal Sciences-I	Discipline Specific (Elective)	3	-	-	3
BMB 105	Chemistry – I	Discipline Specific (Minor 1)	2	-	-	2
	Minor Track (CBCS)	Minor 2	2	-	-	2
BMB 120	Biotechnology Lab - I	Discipline Specific Course (Core 1) Lab	-	-	2	1
BMB 121	Chemistry Lab – I	Discipline Specific (Minor 1) Lab	-	-	2	1
BMB 122/ BMB 123	Plant Sciences Lab - I / Animal Sciences Lab-I	Discipline Specific (Elective) Lab	-	-	2	1
BSU143	Behavioural Science I	Value Added Course (VAC)	1	-	-	1

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BCU 141	Communication Skill – I	Ability Enhancement Course (AEC)	2	-	-	2
EVS 142	Environmental Studies - I	Value Added Course (VAC)	2	-	-	2
FLU 144 FLU 145 FLU 146 FLU 147 FLU 148	Foreign Language - I French - I German Spanish Japanese Chinese	Skill Enhancement Course (SEC)	2	-	-	2
	<b>TOTAL</b>					<b>23</b>

## SECOND SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BMB 201	Bioanalytical Techniques	Discipline Specific Course (core 1)	3	-	-	3
BMB 202	Introductory Biochemistry & Biophysics	Inter/ Multi-Disciplinary Course	3	-	-	3
BMB 203/ BMB 204	Plant Sciences – II/ Animal Sciences-II	Discipline Specific (Elective)	3	-	-	3
BMB 205	Chemistry – II	Discipline Specific (Minor 1)	2	-	-	2
	Minor Track (CBCS)	Minor 2	2	-	-	2
BMB220	Biotechnology Lab – II	Discipline Specific Course (Core 1) Lab	-	-	2	1
BMB 221	Chemistry Lab – II	Discipline Specific (Minor 1) Lab	-	-	2	1
BMB 222/ BMB 223	Plant Sciences Lab - II / Animal Sciences Lab-II	Discipline Specific (Elective) Lab	-	-	2	1
BSU243	Behavioural Science I	Value Added Course (VAC)	1	-	-	1
BCU 241	Communication Skill – II	Ability Enhancement Course (AEC)	2	-	-	2

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EVS 242	Environmental Studies - II	Value Added Course (VAC)	2	-	-	2
FLU 244 FLU 245 FLU 246 FLU 247 FLU 248	Foreign Language - II French - II German Spanish Japanese Chinese	Skill Enhancement Course (SEC)	2	-	-	2
BMB-260	*Bio-Instrumentation	Vocational training				4*
	<b>TOTAL</b>					<b>23</b>

- \*Vocational training for Certificate in bio-Instrumentation (04 Credit) as NTCC.



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## THIRD SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BMB 301	Genetics	Discipline Specific Course (core 1)	3	-	-	3
BMB 302	Microbiology	Discipline Specific Course (core 2)	3	-	-	3
BMB 303/ BMB 304	Anatomy & Plant Physiology/ Animal Physiology-I	Discipline Specific (Elective)	3	-	-	3
BMB 305	Chemistry – III	Discipline Specific (Minor 1)	2	-	-	2
	Minor Track (CBCS)	Minor 2	2	-	-	2
BMB 320	Biotechnology Lab – III	Discipline Specific Course (Core 1) Lab	-	-	2	1
BMB321	Chemistry Lab – III	Discipline Specific (Minor 1) Lab	-	-	2	1

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BMB322/ BMB323	Anatomy & Plant Physiology Lab/ Animal Physiology Lab-I	Discipline Specific (Elective) Lab	-	-	2	1
BCU 341	Communication Skill – III	Ability Enhancement Course (AEC)	2	-	-	2
BSU343	Behavioural Science – III	Value Added Course (VAC)	1	-	-	1
FLU 344 FLU 345 FLU 346 FLU 347 FLU 348	Foreign Language – III French - III German Spanish Japanese Chinese	Skill Enhancement Course (SEC)	2	-	-	2
	<b>TOTAL</b>					<b>21</b>



**AMITY UNIVERSITY**  
MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

#### FOURTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BMB 401	Molecular Cell Biology	Discipline Specific Course (core 1)	3	-	-	3
BMB 402	Bioinformatics	Inter/ Multi-Disciplinary Course	3	-	-	3
BMB 403/ BMB 404	Plant Breeding, Embryology, Pathology & Economic Botany/ Animal Physiology-II	Discipline Specific (Elective)	3	-	-	3
BSB 405	Chemistry – IV	Discipline Specific (Minor 1)	3	-	-	3
	Minor Track (CBCS)	Minor 2	2	-	-	2

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BMB 420	Biotechnology Lab - IV	Discipline Specific Course (Core 1) Lab	-	-	2	1
BMB 421/ BMB 422	Plant Breeding, Embryology, Pathology & Economic Botany Lab/ Animal Physiology Lab-II	Discipline Specific (Elective) Lab	-	-	2	1
BMB 450	Term Paper (Review Article)	AEC	-	-	-	2
BSU-440	Behavioural Science – IV	VAC	2	-	-	2
FLU 444 FLU 445 FLU 446 FLU 447 FLU 448	Foreign Language – IV French - IV German Spanish Japanese Chinese	Skill Enhancement Course (SEC)	3	-	-	3
BMB 460	*Clinical Biochemistry	*Vocational Training				4*
	<b>TOTAL</b>					<b>23</b>

- \*Vocational training for diploma in clinical biochemistry (4 credit) as NTCC.



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## FIFTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BMB 501	Plant Biotechnology	Discipline Specific Course (core 1)	3	-	-	3
BMB 502	Animal Biotechnology	Discipline Specific Course (core 2)	3	-	-	3
BMB 503	Biochemistry and Metabolic Regulation	Discipline Specific Course (core 3)	3	-	-	3
BMB 504	Recombinant DNA Technology	Discipline Specific Course (core 4)	3	-	-	3

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BMB-505	Enzyme Technology	Inter/ Multi-Disciplinary Course	2	-	-	2
	<b>Minor Track (CBCS)</b>	<b>Minor 2</b>	3	-	-	3
BMB-521	Plant Biotechnology Lab	Discipline Specific Course (core 1) Lab	-	-	2	1
BMB-522	Animal Biotechnology lab	Discipline Specific Course (core 2) Lab	-	-	2	1
BMB-523	Biochemistry and Metabolic Regulation Lab	Discipline Specific Course (core 3) Lab	-	-	2	1
BMB-524	Recombinant DNA Technology Lab	Discipline Specific Course (core 4) Lab	-	-	2	1
	<b>TOTAL</b>					<b>21</b>



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## SIXTH SEMESTER

Course Code	Course Title	Broad Category of Courses	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BMB 601	Environmental Biotechnology	Discipline Specific Course (core 1)	3	-	-	3
BMB 602	Industrial Biology	Discipline Specific Course (core 2)	3	-	-	3
BMB 603	Immunology & Immunotechnology	Discipline Specific Course (core 3)	3	-	-	3
	Minor Track (CBCS)	Minor 2 (Project)	-	-	-	1

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BMB 620	Environmental Biotechnology Lab	Discipline Specific Course (core 1) Lab	-	-	2	1
BMB 621	Industrial Biology lab	Discipline Specific Course (core 2) Lab	-	-	2	1
BMB 623	Immunology and Immunotechnology lab	Discipline Specific Course (core 3) Lab	-	-	2	1
BMB660*	Project (6-8 Week)	Field Project/ Summer Internship Project	-	-	-	6
<b>TOTAL</b>						<b>19</b>

**\*Summer Internship Program of 6-8 Weeks duration to be conducted during 6<sup>th</sup> Semester in conjunction with Institute/Industry. This is Non-Teaching Credit Course (NTCC).**



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## PROGRAMME STRUCTURE

### SEVENTH SEMESTER

Course Code	Course Title	Lecture (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits	Page No.
BMB701	<b>Advanced Biochemistry</b>	3	1	-	4	
BMB702	Advanced Microbial Technology	3	-	-	3	
BMB703	Biophysics & Bioanalytical Techniques	3	-	-	3	
BMB704	Advanced Cell Biology & Genetics	3	1	-	4	
BMB705	Advanced Biostatistics for Biologists	3	-	-	3	

*Dwivedi*

CSE 703	Computer Applications	3	-	-	3	
BMB720	Biochemistry Lab	-	-	4	2	
BMB721	Advanced Microbial Technology Lab	-	-	2	1	
BMB722	Cell Biology & Genetics Lab	-	-	2	1	
CSE 723	Computer Applications Lab	-	-	2	1	
BCE741	Advanced Communication - I	1	-	-	1	
BSP743	Behavioural Science – I	1	-	-	1	
	<b>TOTAL</b>				<b>27</b>	

#### EIGHTH SEMESTER

BMB801	Advanced Molecular Biology	4	-	-	4	
BMB802	Advances in Genetic Engineering	4	-	-	4	
BMB803	Bioprocess Technology	4	-	-	4	
BMB804	Advanced Genomics & Proteomics	4	-	-	4	
BMB805	Computational Biology	3	-	-	3	
BMB806	Environmental Biotechnology	3	-	-	3	
BMB820	Advanced Molecular Biology Lab	-	-	4	2	
BMB821	Genetic Engineering Lab	-	-	4	2	
BMB822	Bioprocess Technology Lab	-	-	4	2	
BMB823	Advanced Genomics & Proteomics Lab			2	1	
BMB824	Computational Biology Lab	-	-	2	1	
BCE841	Advanced Communication - II	1	-	-	1	
BSP843	Behavioural Science – II	1	-	-	1	
	<b>TOTAL</b>				<b>32</b>	

#### SUMMER INTERNSHIP OF 09 -12 WEEKS



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

#### NINETH SEMESTER

BMB901	Advanced Immunology	3	-	-	3	
BMB902	Enzyme Technology	3	-	-	3	
BMB 903	Advanced Animal Biotechnology	3	-	-	3	
BMB 904	Advanced Plant Biotechnology	3	-	-	3	
	<b>Elective (Select any One)</b>	3	-	-	3	
BMB905	• Drug Design & Development					
BMB906	• Drug Delivery Systems					
BMB907	• Pharmaceutical Biotechnology					
BMB908	• IPR, Biosafety & Bioethics					

*Dwivedi*



BMB909	<ul style="list-style-type: none"> <li>• Clinical Biotechnology</li> <li>• Nanobiotechnology</li> <li>• Entrepreneurship In Biotechnology</li> </ul>					
BMB910						
BMB911						
BMB920	Advanced Immunology Lab	-	-	2	1	
BMB921	Enzyme Technology Lab	-	-	2	1	
BMB922	Advanced Animal Biotechnology & Plant Biotechnology Lab	-	-	2	1	
BMB950	Summer Internship (Evaluation)	-	-	-	12	
	<b>TOTAL</b>				<b>30</b>	

#### TENTH SEMESTER

BMB1060	Project (20 - 22 weeks)	-	-	-	30	
	<b>TOTAL</b>				<b>30</b>	



**AMITY UNIVERSITY**  
MADHYA PRADESH

*Established vide Government of Madhya Pradesh Act No. 27 of 2010*

## Master of Science (Biotechnology)

**Programme Code : MSB**

*Dwivedi*

Prof. (Dr.) Vinay Dwivedi  
Director, Amity Institute of Biotechnology  
Amity University, Madhya Pradesh  
Neharupura, Gwalior 474005

**Duration – 2 Years Full Time**

**Programme Structure  
And  
Curriculum & Scheme of Examination**

**Batch: 2023 -2025**

**AMITY UNIVERSITY  
MADHYA PRADESH**



Prof. (Dr.) Vinay Dwivedi  
Director, Amity Institute of Biotechnology  
Amity University, Madhya Pradesh  
Neharupura, Gwalior 474005



## PROGRAMME STRUCTURE

### FIRST SEMESTER

Course Code	Course Title	Lecture (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits	Page No.
MSB101	<b>Advanced Biochemistry</b>	3	1	-	4	
MSB102	Advanced Microbial Technology	3	-	-	3	
MSB103	Biophysics & Bioanalytical Techniques	3	-	-	3	
MSB104	Advanced Cell Biology & Genetics	3	1	-	4	
MSB105	Advanced Biostatistics for Biologists	3	-	-	3	
CSE 103	Computer Applications	3	-	-	3	
MSB120	Biochemistry Lab	-	-	4	2	
MSB121	Advanced Microbial Technology Lab	-	-	2	1	
MSB122	Cell Biology & Genetics Lab	-	-	2	1	
CSE 123	Computer Applications Lab	-	-	2	1	
BCP141	Advanced Communication - I	1	-	-	1	
BSP143	Behavioural Science – I	1	-	-	1	
	<b>TOTAL</b>				<b>27</b>	

### SECOND SEMESTER

MSB201	Advanced Molecular Biology	4	-	-	4	
MSB202	Advances in Genetic Engineering	4	-	-	4	
MSB203	Bioprocess Technology	4	-	-	4	
MSB204	Advanced Genomics & Proteomics	4	-	-	4	
MSB205	Computational Biology	3	-	-	3	
MSB206	Environmental Biotechnology	3	-	-	3	
MSB220	Advanced Molecular Biology Lab	-	-	4	2	
MSB221	Genetic Engineering Lab	-	-	4	2	
MSB222	Bioprocess Technology Lab	-	-	4	2	
MSB223	Advanced Genomics & Proteomics Lab			2	1	
MSB224	Computational Biology Lab	-	-	2	1	
BCP241	Advanced Communication - II	1	-	-	1	
BSP243	Behavioural Science - II	1	-	-	1	
	<b>TOTAL</b>				<b>32</b>	

### SUMMER INTERNSHIP OF 09 -12 WEEKS



# AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

## THIRD SEMESTER

MSB301	Advanced Immunology	3	-	-	3	
MSB302	Enzyme Technology	3	-	-	3	
MSB303	Advanced Animal Biotechnology	3	-	-	3	
MSB304	Advanced Plant Biotechnology	3	-	-	3	
	<b>Elective (Select any One)</b>	3	-	-	3	
MSB305	• Drug Design & Development					
MSB306	• Drug Delivery Systems					
MSB307	• Pharmaceutical Biotechnology					
MSB308	• IPR, Biosafety & Bioethics					
MSB309	• Clinical Biotechnology					
MSB310	• Nanobiotechnology					
MSB311	• Entrepreneurship In Biotechnology					
MSB320	Advanced Immunology Lab	-	-	2	1	
MSB321	Enzyme Technology Lab	-	-	2	1	
MSB322	Advanced Animal Biotechnology & Plant Biotechnology Lab	-	-	2	1	
MSB350	Summer Internship (Evaluation)	-	-	-	12	
	<b>TOTAL</b>				<b>30</b>	

## FOURTH SEMESTER

MSB460	Project (20 - 22 weeks)	-	-	-	30	
	<b>TOTAL</b>				<b>30</b>	



# AMITY UNIVERSITY

## MADHYA PRADESH

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**Master of Technology (Biotechnology)**

**Programme Code: MTB**

**Duration – 2 Years Full Time**

**Programme Structure  
And  
Curriculum & Scheme of Examination**

**Batch: 2023 – 2025**

# AMITY UNIVERSITY

## MADHYA PRADESH

Prof. (Dr.) Vinay Dwivedi  
Director, Amity Institute of Biotechnology  
Amity University, Madhya Pradesh  
Rohatpur, Gwalior 474005

# PROGRAMME STRUCTURE

## FIRST SEMESTER

Course Code	Course Title	Lecture (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits	Page No.
MTB101	Biochemistry & Metabolic Regulation	4	-	-	4	
MTB102	Advanced Microbial Technology	4	-	-	4	
MTB103	Instrumentation in Biotechnology	4	-	-	4	
MTB104	Bioinformatics	4	-	-	4	
MTB105	Advance Biostatistics for Biologists	3	-	-	3	
MTB120	Biochemistry Lab	-	-	4	2	
MTB121	Microbiology Lab	-	-	2	1	
MTB122	Instrumentation in Biotechnology Lab	-	-	2	1	
MTB123	Bioinformatics Lab	-	-	2	1	
BCP141	Advanced Communication - I	1	-	-	1	
BSP143	Behavioural Science - I	1	-	-	1	
	<b>TOTAL</b>				<b>26</b>	



## SECOND SEMESTER

MTB201	Cell & Molecular Biology	4	-	-	4	
MTB202	Recombinant DNA Technology	4	-	-	4	
MTB203	Bioprocess Technology	4	-	-	4	
MTB204	Genomics & Proteomics	4	-	-	4	
MTB205	Pharmaceutical Biotechnology	3	-	-	3	
	<b>Elective-I (any one)</b>	3	-	-	3	
MTB206	• Environmental Biotechnology					
MTB207	• Biosensors					
MTB208	• Artificial Neural Networks					
MTB209	• Agriculture Biotechnology					
MTB210	• Fundamentals of Computers & Programming in "C"					
MTB211	• Bio-energy Engineering					
MTB220	Cell & Molecular Biology Lab	-	-	4	2	
MTB221	Recombinant DNA Technology Lab	-	-	4	2	
MTB222	Bioprocess Technology Lab	-	-	4	2	
MTB223	Genomics & Proteomics Lab	-	-	2	1	
BSP241	Advanced Communication - II	1	-	-	1	
BSP243	Behavioural Science - II	1	-	-	1	
	<b>TOTAL</b>				<b>31</b>	

## SUMMER PROJECT: 8 - 10 WEEKS



### THIRD SEMESTER

MTB301	Immunology & Immunotechnology	4	-	-	4	
MTB302	Enzymology & Enzyme Technology	4	-	-	4	
MTB303	Drug Design & Development	4	-	-	4	
MTB304	Bioprocess Plant Design	3	-	-	3	
	<b>Elective - II (any one)</b>	3	-	-	3	
MTB305	• Pollution Prevention Fundamentals					
MTB306	• Drug Delivery Systems					
MTB307	• IPR, Biosafety & Bioethics					
MTB308	• Advanced Food Technology					
MTB309	• Industrial Safety & Management					
MTB310	• Advanced Animal & Plant Cell Technology					
MTB320	Immunology & Immunotechnology Lab	-	-	4	2	
MTB321	Enzymology & Enzyme Technology Lab	-	-	2	1	
MTB360	Summer Project (Evaluation)	-	-	-	12	
	<b>TOTAL</b>				<b>33</b>	

### FOURTH SEMESTER

MTB460	Project (20-22 weeks)	-	-	-	30	
	<b>TOTAL</b>				<b>30</b>	

