

# **MASTER OF SCIENCE (BIOINFORMATICS)**

**Programme Code: BIM**

**Duration: 2 Years**

**SESSION: 2019-2020**



**Programme Scheme  
Faculty of Life and Basic Sciences**

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**SEMESTER I**

<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>IA</b>	<b>UE</b>	<b>Marks</b>	<b>Credits</b>
BIMC101	Fundamentals Of Biostatistics	4	-	-	30	70	100	4
BIMC102	Fundamentals Of Computer Sciences	4	-	-	30	70	100	4
BIMC103	Fundamentals Of Molecular Biology	4	-	-	30	70	100	4
BIMC104	Recombinant DNA Technology	4	-	-	30	70	100	4
BIMC191	Fundamentals Of Biostatistics lab			2	15	35	50	2
BIMC192	Fundamentals Of Computer Sciences lab			2	15	35	50	2
BIMC193	Fundamentals Of Molecular Biology lab			2	15	35	50	2
BIMC194	Recombinant DNA Technology lab			2	15	35	50	2
	<b>Total</b>	<b>16</b>	<b>0</b>	<b>08</b>	<b>180</b>	<b>320</b>	<b>600</b>	<b>24</b>

## SEMESTER II

<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>IA</b>	<b>UE</b>	<b>Marks</b>	<b>Credits</b>
BIMC201	Visual Basics With Rdbms	4	-	-	30	70	100	4
BIMC 202	Multivariate Analysis	4	-	-	30	70	100	4
BIMC203	Perl For Programming	4	-	-	30	70	100	4
BIMC204	Systems Biology	4	-	-	30	70	100	4
BIMC291	Visual Basics With Rdbms Lab			2	15	35	50	2
BIMC292	Multivariate Analysis lab			2	15	35	50	2
BIMC293	Perl For Programming Lab			2	15	35	50	2
BIMC294	Systems Biology Lab			2	15	35	50	2
	<b>Total</b>	<b>16</b>	<b>0</b>	<b>08</b>	<b>180</b>	<b>320</b>	<b>600</b>	<b>24</b>

## SEMESTER III

Course Code	Course Name	L	T	P	IA	UE	Marks	Credits
BIMC301	Protein Structure And Function	4	-	-	30	70	100	4
BIMC302	Advances In Structural Bioinformatics	4	-	-	30	70	100	4
BIME303	Elective - I	4	-	-	30	70	100	4
BIMS304	Special Paper – I	4	-	-	30	70	100	4
BIMC391	Protein Structure And Function Lab			2	15	35	50	2
BIMC392	Advances In Structural Bioinformatics lab			2	15	35	50	2
BIME393	Elective - I lab			2	15	35	50	2
BIMS394	Special Paper – I lab			2	15	35	50	2
	<b>Total</b>	<b>16</b>	<b>0</b>	<b>08</b>	<b>180</b>	<b>320</b>	<b>600</b>	<b>24</b>

#### SEMESTER IV

Course Code	Course Name	L	T	P	IA	UE	Marks	Credits
BIMC401	CADD (DRUG DESIGNING)	4	-	-	30	70	100	4
BIME402	Elective – II	4	-	-	30	70	100	4
BIMS403	Special Paper – II	4	-	-	30	70	100	4
BIMC484	Project	8	-	-	40	140	200	8
BIMC491	CADD (DRUG DESIGNING) Lab			2	15	35	50	2
BIMS493	Special Paper – II Lab			2	15	35	50	2
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>4</b>	<b>240</b>	<b>340</b>	<b>400</b>	<b>24</b>

**Total Marks: 2400**

**Total Credit: 96**

Semester	Course Code (T+P)	Course Name	(L-T-P)	Credits
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<b>Elective Papers</b>				
III	BIME301	Environmental Biotechnology	4-0-2	6
III	BIME302	Bioinformatics Tools On Matlab	4-0-2	6
III	BIME303	Statistical Computing Using Excel And	4-0-2	6
III	BIME304	Nanobiotechnology	4-0-2	6
IV	BIME401	Molecular Statistical Model Using `R`	4-0-2	6
IV	BIME402	IPR & Biosafety	4-0-2	6
IV	BIME403	Cheminformatics	4-0-2	6
IV	BIME404	Research Methodology	4-0-2	6
<b>Special Papers</b>				
III	BIMS301+BIMS391	Bioprocess & Fermentation technology	4-0-2	6
III	BIMS302+BIMS392	Pharmacogenomics	4-0-2	6
III	BIMS303+BIMS393	Biotech entrepreneurship	4-0-2	6
III	BIMS304+BIMS394	Agriculture Biotechnology	4-0-2	6
IV	BIMS401+BIMS491	C++ Programming	4-0-2	6
IV	BIMS402+BIMS492	Java Programming	4-0-2	6
IV	BIMS403+BIMS493	Plant Tissue Culture	4-0-2	6
IV	BIMS404+BIMS494	Bioethics	4-0-2	6

### **List of Elective and Special Papers:**

**NOTE:** Students have to choose two elective subjects for Semesters III, one from each group Elective I and Special Paper-I. In Semester-IV, the students have to choose two elective subjects, one from each group Elective-II and Special Paper-II. The Special Paper course must be chose in continuation to the course chosen in the previous semester. This choice-based system shall facilitate in development of specialized expertise in thrust areas of Biotechnology. Departmental committee will approve the topic of the project selected by students.