

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

(Formerly West Bengal University of Technology)

Syllabus of B. Sc in Microbiology

(Effective from 2023-24 Academic Sessions)

Curriculum structure for B.SC in Microbiology with Minor in Computer Effective from academic session 2023-24

Sem	Major (Offline)	Minor (Blended Mode) (Computer chain)	Inter Disciplinary (Offline)	Ability Enhancement (Offline)	Skill Enhancement (Online /Sessional)	Common Value added Course (SESSIONAL)	Total credits
I	<p>BMCM-1101 An introduction to basic microbiology</p> <p>BMCM-1191 Lab on an introduction to basic microbiology</p> <p>5 credits (3L+2P)</p> <hr/> <p>BMCM-1102 Cell Biology</p> <p>BMCM--1192 Lab on Cell Biology</p> <p>5 credits (3L+2P)</p>	<p>M01: Computer Fundamental (3 credits)</p>	<p>Any one from GE baskets Basket A or D (3 credits)</p>	<p>English & Professional Communication (2 credits)</p>	<p>Life Skills & Personality Development (2 credits)</p>	<p>Yoga/ Health& Wellness/ Sports / Physical Fitness and Wellness/Comm unity Services (2 credits)</p>	<p>22</p>

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II	<p>BMCM—2101 Diversity of environmental microflora</p> <p>BMCM-2191 Lab on Diversity of environmental microflora 5 credits (3L+2P)</p>	<p>M02: Management Information System (3 credits)</p>	<p>Any one from GE baskets Basket B or E (3 credits)</p>	<p>Modern Indian Languages and Literature (2 credits)</p>	<p>IT Skills / Monetizing Social Media or Design Thinking (2 credits)</p>	<p>Critical Thinking / NSS/ Mental Health/ Environmental Studies (2 credits)</p>	<p align="right">22</p>
	<p>BMCM-2102 Microbial physiology & biochemistry</p> <p>BMCM-2192 Lab on Microbial physiology & biochemistry 5 credits (3L+2P)</p>						

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III	BMCM—3201 Molecular Biology BMCM-3291 Lab on Molecular Biology 5 credits (3L+2P)	M03: Word and PowerPoint & Spreadsheet Application with Excel (4 credits)	Any one from GE baskets Basket C or F (3 credits)	The Constitution and Human Rights (2 credits)/	Understanding basics of Cyber Security (2 credits)		21
	BMCM- 3202 Clinical & Pharmaceutical Microbiology BMCM--3292 Lab on Clinical & Pharmaceutical Microbiology 5 credits (3L+2P)						
IV	BMCM- 4201 Microbial Genetics 4 credits (4L)	M04: Basics of Operating System/ Database Management with SQL (4 credits)		Universal Human Values (UHV) (2 credits)			23
		M05: Graphic Design					

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	<p>BMBC- 4202 Bio analytical Tool 4 credits (4L)</p>	<p>with Photoshop and Illustrator/ Unix And Shell</p> <p>Programming (4 credits)</p>					
	<p>BMBC- 4203 Environmental Microbiology</p> <p>BMBC- 4293 Lab on Environmental Microbiology</p> <p>(5 credits) 3L+2P</p>						
V	<p>BMBC- 5302 Recombinant DNA Technology</p> <p>BMBC- 5392 Lab on Recombinant DNA Technology</p> <p>5 credits (3L+2P</p>	<p>M06:Cloud Computing /Introduction to Computer Network (4 credits)</p> <p>M07:E-commerce and Application (4 credits)</p>			<p>Internship to be started after exam of 4thsem (sem break) and completed within 5thsem (weekends) (4 credits)</p>		22

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	<p>BMMC- 5302 Immunology and allied techniques</p> <p>BMMC- 5392 Lab on Immunology and allied techniques 5 credits(3L+2P)</p>						
VI	<p>BMMC- 6301 Virology (4 credits) 4 credits (3L+1T)</p>	<p>M08:Web Development with HTML and CSS (4 credits)</p>					22
	<p>BMMC- 6302 Food and Industrial microbiology</p> <p>BMMC- 6392 Lab on Food and Industrial microbiology 5 credits (3L+2P)</p>	<p>M09: Internet and Networking /ERP (4 credits)</p>					

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	<p>BMCM-6303 Agricultural Microbiology & Plant pathology</p> <p>BMCM-6393 Lab on Agricultural Microbiology & Plant pathology</p> <p>5 credits (3L+2P)</p>						
VII	<p>BMCM- 7401 Bioinformatics</p> <p>BMCM- 7491 Lab on Bioinformatics 5 credits (3L+2P)</p> <p>BMCM- 7402 Advanced diagnostic approaches for microbial disease detection 5credits (4L+1T)</p>	<p>M10: Software Project Management /Introduction To Cyber Security and Cyber Laws (4 credits)</p> <p>M11: Digital Marketing/ Data Analysis and Interpretation (4 credits)</p>					22

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	BMMC 7403 Research methodology 4 credits (4L)						
VIII	BMMC- 8401 IPR, Bioethics and Biosafety 5 credits(4L+1T)				Research project 12 credits		22
	BMMC- 8402 Microbial biotechnology - Recent techniques 5 credits (4L+1T)						
	19 sub - 91 credits	11 sub – 42 credits	3 sub – 09 credits	4 sub – 08 credits	3 sub & Int &Proj - 22 credits	2 sub – 4 credits	176

Note:

Normally all 5 credit courses will be either theory (3) + practical (2) [100+100 marks] or theory (4) + tutorial (1) [100 marks]

Normally all 4 credit courses will be either theory (3) + tutorial (1) or theory (4) [100 marks]

Normally all 3 credit courses will be theory (3) – Inter disciplinary (5 to 6 baskets) [100 marks]

Normally all 2 credit courses AEC/SEC/CVA would be theory or online/sessional course

4th year subjects could be foundation of Master's program (as masters would be of 1 year after 4 years UG)

7/8th semester Major subjects could include Projects in core, if required

100/200/300/400 level should be maintained as per UGC document

For online course (Skill Enhancement Course) 2 credits=30 hours.

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