MAHATMA GANDHI UNIVERSITY, KERALA

Abstract

Bachelor of Science (Honours) Biochemistry - Third Semester - Recommendations for modifications to the Course Outcomes and Course Content - Academic Council Resolution - Orders issued

ACA 16

No. 7504/ACA 16/2025/MGU Priyadarsini Hills,Dated: 12.08.2025

Read:-1. U.O. No. 5797/AC A16/2024/MGU, dated. 27.06.2024

2. Item No: 60/43736/AC A16 -1/2025, of the minutes of the meeting of the Academic Council held on 04.07.2025.

ORDER

The syllabi of various Under Graduate Programmes coming under the MGU-UGP (Honours) Regulations, 2024, have been approved vide paper read as (1) above and published on the website of the University.

The Expert Committee on Biochemistry (UG), at its meeting discussed the need to modify the **Course Outcomes** and **Course Content** of **MG3DSCBCH202: Techniques in Biochemistry and Forensic Science, MG3MDCBCH200: Food as Medicine, MG3VACBCH200: Microplastics and Environment,** in the **Third Semester** syllabus of Bachelor of Science (Honours) Biochemistry programme and has submitted recommendations. (Recommendations are attached as Annexure)

These recommendations were placed before the Academic Council for consideration as per the orders of the Vice Chancellor on 15.05.2025.

The Academic Council meeting, vide paper read as (2) above, has resolved to approve the recommendations of the Expert Committee on Biochemistry (UG).

Hence, the **Course Outcomes** and **Course Content** of the said courses in the **Third Semester** syllabus of **Bachelor of Science (Honours) Biochemistry** programme stands modified to this extent.

Orders are issued accordingly.

SUDHA MENON J

ASSISTANT REGISTRAR III

(ACADEMIC)
For REGISTRAR

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1. PS to VC
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5. Convenor, Expert Committee, Biochemistry (UG)
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7. AC C1/ AC C2 Sections
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File No: 43736/AC A16-1/2025/ACA 16

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Section Officer

ANNEXURE

SEMESTER III

Course Name : Techniques in Biochemistry and Forensic Science
Course Code : MG3DSCBCH202

Course Outcomes

CO.No.	Expected Course Outcome (Modified)	Learning Domains (Modified)	PO.No (Modified)	Page No.
1	Gain a deep understanding of chromatographic, electrophoretic and blotting techniques for separating and analyzing biological molecules	K,U,E	No change	45
2	Explain the principles and applications of spectroscopy, colorimetry, centrifugation, and microscopy in biochemical and forensic analysis	K,U,A	1,2,3,9	
3	Discuss crime scene sample collection and its processing, and explain the principles and applications of DNA fingerprinting in forensic and clinical settings such as paternity/maternity testing.	K,U,An	No change	
4	Integrate knowledge of biochemistry, molecular biology, forensic science and biotechnology to analyze biological samples and interpret the results obtained from various analytical techniques	U,E,S	2,3,4,9	
5	Removed			
6				
7				

Course Content
Content for classroom transaction (Units)

Module	Units	Course Description (Modified)	Hours (Modified)	CO.No (Modified)	Page No.
1	1.1			1	
	1.2				
	1.3				
	1.4				

	1.5	No change	No change		46
	1.6				
2	2.1			2	
	2.2				
	2.3				
	2.4				
	2.5				
3	3.1	No change	No change	3	
	3.2				
	3.3				
4. Practical	4.1	Beer Lambert's law verification	4	4	
	4.2	Paper Chromatography/ Thin layer Chromatography	5		
	4.3	Electrophoresis (Demonstration)			
	4.4	DNA Isolation (from onion/green peas)			
	4.5	Estimation of isolated DNA			
	4.6	Industrial Visit/ Field Visit/ Laboratory Visit/ Participation in the Seminar/ Workshop	6		

Course Name : Food as Medicine
Course Code : MG3MDCBCH200

Course Outcomes

CO.No	Expected Course Outcome (Modified)	Learning Domains (Modified)	PO.No (Modified)	Page No.
1	Explore the link between good health, proper nutrition (including energy needs and recommended diets), and an enhanced quality of life	K,U	1,2,3,4	48
2	Develop a comprehensive understanding of the roles, and physiological effects of various nutrients	U,A,E	1,2,3,4	
3	Recognize the potential of different fucntional foods and nutraceuticals in enhancing human health	K,U,A	1,2,3,4	
4	Acquire knowledge of diet therapy and various	K,U,A	1,2,3,4,6	

	therapeutic diets, and apply it to make informed food choices and achieve a balanced diet			
5	Removed			
6				

Course Content
Content for classroom transaction (Units)

Module	Units	Course Description	Hours	CO.No (Modified)	Page No.
1	1.1	No change	No change	No change	49
	1.2			No change	
	1.3			1	
	1.4			2	
	1.5				
	1.6				
	1.7				
2	2.1			3	
	2.2				
3	3.1			4	
	3.2				
	3.3				
	3.4				
	3.5				
	3.6				

Course Name : Microplastics and Environment
Course Code : MG3VACBCH200

Course Outcomes

CO.No	Expected Course Outcome (Modified)	Learning domains (Modified)	PO.No (Modified)	Page No.
1	Examine the sources, types, transport mechanisms, and environmental fate of microplastics across various ecosystems	K,U	1,2,3,4	
2	Evaluate impacts of microplastic pollution on	K,U,E	1,2,3,6	

	aquatic and terrestrial ecosystems			51
3	Explore the effects of microplastics in food and drinking water and evaluate the health risks and regulatory perspectives related to the impact of microplastics on biological systems	K,U,A	1,2,3,6	
4	Evaluate the impact on microplastics on climate change and develop strategies for their mitigation and management	U,A,E	1,2,6,7	
5	Removed			
6				

Course Content
Content for classroom transaction (Units)

Module	Units (existing)	Units (modified)	Course Description	Hours	CO.No (Modified)	Page No.
1	1.1	No change	No change	No change	No change	52
	1.2					
	1.3					
	1.4				1	
2	2.2	2.1			1	
	2.3	2.2				
3	2.1	3.1			2	
	2.2	3.2				
	2.3	3.3			3	
	2.4	3.4				
	2.5	3.5			4	
	2.6	3.6				