

9B	<b>List of courses addressing <i>Local Needs</i>:</b>		
<i>Course Code</i>	<i>Course Title</i>	<i>Brief Description</i>	
BCH 21-101CR	Biomolecules	The course imparts understanding in the chemistry of cells/tissues/organisms. In the long run this course is essential for producing human resources with the theoretical knowledge in the field of biomedical research.	
BCH 21-102CR	Cell Biology	The course will essentially build the concepts of cell cycle regulation, cell division and intracellular communication. In the long run this course is essential for producing human resources with the theoretical knowledge in the field of biomedical research.	
BCH21-101DCE	Plant Biochemistry	Students will have enhanced knowledge of the principles of plant biochemistry to analyze and understand the biochemical processes and metabolic pathways involved in crop growth, development, metabolism and stress responses. The students should be able to demonstrate effective communication and extension skills to disseminate knowledge and technologies related to plant biochemistry	
BCH21-202CR	Molecular Biology	On completing this course, the students will be able to explain or discuss how the genetic information encrypted in the DNA is trickled down into the proteins to run the cellular physiology. The students will have the thorough concepts of chromatin organization, DNA replication, transcription and its regulation in prokaryotes, eukaryotes and viruses. In the long run, this course is essential for producing human resources with the theoretical knowledge in the field of biomedical research.	
BCH21-301CR	Immunology	On completion of this course, the students will develop critical thinking for various immunological processes. The students will explain the functioning of the immune system. They will be able to clearly state the role of innate and adaptive immune systems, and innate recognition receptors (i.e. Toll-Like Receptors) in immune responses. The students will be able to compare humoral versus cell-mediated immune responses, be able to distinguish various cell types involved in immune responses and associated functions. The students will understand the significance of the MHC Complex in terms of immune response and transplantation, be able to describe lymphocyte development and the expression of their receptors and be able to provide an overview of the host (immune system)-pathogen interactions.	
BCH21-301DCE	Nutritional Biochemistry and Endocrinology	The students will be able to explain the concepts regarding the biological basis of nutrition and the mechanisms by which diet can influence health. This includes a basic understanding of metabolism, physiology, molecular genetics and epidemiology. The students can develop	

			research proposals for the study of human nutrition with concepts in nutritional sciences related to diet and disease. The students who opt for the endocrinology section of this course will be able to explain the integration of developmental events, proliferation, growth, and differentiation, and the psychological or behavioural activities, metabolism, growth and development, tissue function, sleep, digestion, respiration, excretion, mood, stress, lactation, movement, reproduction and sensory perception caused by hormones.
	BCH21-302DCE	Physiology and Clinical Biochemistry	By the completion of this course, the Masters students are able to demonstrate knowledge of organ systems function, cellular function, ability to integrate physiology from the cellular and molecular level to the organ system and organismic level of organization and conduct and/or evaluate laboratory experiments in physiology. This course has a potential for employability in research laboratories, diagnostic setups and biotechnology industry.
<b>9C</b>	<b>List of courses addressing <i>Regional Needs</i>:</b>		
	<i>Course Code</i>	<i>Course Title</i>	<i>Brief Description</i>
	BCH 21-101CR	Biomolecules	The course imparts understanding in the chemistry of cells/tissues/organisms. In the long run this course is essential for producing human resources with the theoretical knowledge in the field of biomedical research.
	BCH 21-102CR	Cell Biology	The course will essentially build the concepts of cell cycle regulation, cell division and intracellular communication. In the long run this course is essential for producing human resources with the theoretical knowledge in the field of biomedical research.
	BCH21-101DCE	Plant Biochemistry	Students will have enhanced knowledge of the principles of plant biochemistry to analyze and understand the biochemical processes and metabolic pathways involved in crop growth, development, metabolism and stress responses. The students should be able to demonstrate effective communication and extension skills to disseminate knowledge and technologies related to plant biochemistry.
	BCH 21-202CR	Molecular Biology	On completing this course, the students will be able to explain or discuss how the genetic information encrypted in the DNA is trickled down into the proteins to run the cellular physiology. The students will have the thorough concepts of chromatin organization, DNA replication, transcription and its regulation in prokaryotes, eukaryotes and viruses. In the long run, this course is essential for producing human resources with the theoretical knowledge in the field of biomedical research.

	BCH21 – 301CR	Immunology	On completion of this course, the students will develop critical thinking for various immunological processes. The students will explain the functioning of the immune system. They will be able to clearly state the role of innate and adaptive immune systems, and innate recognition receptors (i.e. Toll-Like Receptors) in immune responses. The students will be able to compare humoral versus cell-mediated immune responses. The students will understand the significance of the MHC Complex in terms of immune response and transplantation, be able to describe lymphocyte development and the expression of their receptors and be able to provide an overview of the host (immune system)-pathogen interactions.
	BCH21-302CR	Biotechnology	On completion of this course, the students will develop the concepts of the applications of various techniques and the knowledge that we obtain in different areas like Cell Biology, Molecular Biology, Biochemical Techniques etc. The students will have all the theoretical knowledge about gene cloning, animal and plant cell culture, production of monoclonal antibodies using hybridoma technology, antibody fragments and vaccines. This course has a potential for employability in research laboratories, diagnostic setups and biotechnology industry.
<b>9D</b>	<b>List of courses addressing <i>Global Needs</i>:</b>		
	<i>Course Code</i>	<i>Course Title</i>	<i>Brief Description</i>
	BCH 21-101CR	Biomolecules	The course imparts understanding in the chemistry of cells/tissues/organisms. In the long run this course is essential for producing human resources with the theoretical knowledge in the field of biomedical research.
	BCH 21-102CR	Cell Biology	The course will essentially build the concepts of cell cycle regulation, cell division and intracellular communication. In the long run this course is essential for producing human resources with the theoretical knowledge in the field of biomedical research.
	BCH21-101DCE	Plant Biochemistry	Students will have enhanced knowledge of the principles of plant biochemistry to analyze and understand the biochemical processes and metabolic pathways involved in crop growth, development, metabolism and stress responses. The students should be able to demonstrate effective communication and extension skills to disseminate knowledge and technologies related to plant biochemistry
	BCH 21–202CR	Molecular Biology	On completing this course, the students will be able to explain or discuss how the genetic information encrypted in the DNA is trickled down into the proteins to run the cellular physiology. The students will have the thorough concepts of chromatin organization, DNA

			<p>replication, transcription and its regulation in prokaryotes, eukaryotes and viruses. In the long run, this course is essential for producing human resources with the theoretical knowledge in the field of biomedical research.</p>
	BCH21-301CR	Immunology	<p>On completion of this course, the students will develop critical thinking for various immunological processes. The students will explain the functioning of the immune system. They will be able to clearly state the role of innate and adaptive immune systems, and innate recognition receptors (i.e. Toll-Like Receptors) in immune responses. The students will be able to compare humoral versus cell-mediated immune responses. The students will understand the significance of the MHC Complex in terms of immune response and transplantation, be able to describe lymphocyte development and the expression of their receptors and be able to provide an overview of the host (immune system)-pathogen interactions.</p>