MBG525 PROTEINS & ENZYMES SYLLABUS 2023-24 SESSION		
1.	Course Title:	Proteins & Enzymes
2.	Course Code:	MBG525
3.	Course Status:	Core
4.	Year of Study:	Graduate
5.	Semester:	First
6.	ECTS Credits allocated:	8
7.	Theoretical (hours/week):	3
8.	Laboratory sessions:	0
9.	Prerequisite:	None
10.	Language:	English
11.	Mode of delivery:	In-person
12.	Course coordinator:	Muse Oke
13.	Contact information of coordinator:	museoke@iyte.edu.tr
14.	Description of the course:	The Biochemistry I course aims to instruct students on the structure and function of proteins and enzymes
15.	Learning outcomes:	By the end of the course, students should be able to demonstrate knowledge and understanding of: i. Composition, structure and function of proteins and enzymes ii. Roles of enzymes in biochemical reactions and their regulation iii. Ultimately, provide insight into the chemistry of life processes iv. how to pursue independent and self-directed learning
16.	Course content:	
	Week 1:	Introduction: Chemical bonds; amino acids; levels of protein structures
	Week 2:	Protein synthesis and folding
	Week 3:	Heterologous protein expression and purification strategies
	Week 4:	Protein structure-function relationships; 3D structure determination methods
	Week 5:	Enzymes: classification and mechanisms of action
	Week 6:	Ribozymes and their mechanisms of action
	Week 7:	Midterm I
	Week 8:	Thermodynamics & Enzyme kinetics I
	Week 9:	Thermodynamics & Enzyme kinetics II
	Week 10:	Regulation of enzymes

	Week 11:	Membrane proteins & Post-translational modifications of proteins
	Week 12:	Evolution of proteins
	Week 13:	Midterm II
	Week 14:	Revision week
	Week 15:	Final exams
17.	Recommended Textbooks:	i. **Lehninger Principles of Biochemistry Eighth Edition (2021)** by David L. Nelson & Michael M. Cox ii. **Molecular Cell Biology Ninth Edition (2021)** by Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Anthony Bretscher, Hidde Ploegh, Kelsey C. Martin, Michael Yaffe & Angelika Amon iii. **Biochemistry 9th Edition (2019)** by Lubert Stryer iv. **Molecular Biology of the Cell Sixth Edition (2015)** by Bruce Alberts, Alexander Johnson, Julian Lewis, David Morgan, Martin Raff, Keith Roberts & Peter Walter v.
18.	Assessment:	
	Mode of Assessment	Weight/Dates
	Midterm exams 1 & 2	20% midterm I 20% midterm II
	Final exam	60%