

Selected courses in English in the academic year 2010/11

KUL institute/department:	Biotechnology/Molecular Biology
Course title:	Enzymes – structure and regulation
Lecturer (name, surname):	Ryszard Szyszka
Title/position:	Ph.D., D.Sc., Professor
ECTS credits:	3
Course duration (1 st , 2 nd or both semesters):	1 st semester
Number of hours per week:	2
Course type:	lecture
Level:	
Course description:	Enzymes nomenclature and classification; Active sites, activation energy and catalytic mechanisms (enzyme-substrate complex, three points contact, induced fit and “lock and key” model); Effect of temperature, pH and enzyme specificity; Enzyme kinetics (Michaelis-Menten type); Affinity for substrates; Enzyme effectors and the binding; Control of activity by allosteric effectors, altering amounts and phosphorylation; Effect of substrate concentration; Feedback inhibition; Half-life; Enzymes as tools, therapeutic agents and targets for therapy; Enzyme deficiency diseases.
Required reading list:	<ol style="list-style-type: none"> 1. Elliot W.H. & Elliot D.C. (2001) Biochemistry and Molecular Biology. Oxford University Press 2. Newsholme E. & Leech T. (2009) Functional Biochemistry in Health and Disease. Wiley-Blackwell 3. Voet D. & Voet J.G. (2004) Biochemistry. Wiley 4. Alberts B., Bray D., Levis J., Raff M., Roberts K. And Watson J.D. (1994) Molecular Biology of the Cell. Garland Publishing.
Prerequisites:	None
Assessment method:	Written examination
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