

**BIOCHEMISTRY I****Study Programme: MIMV Curricular Year: 1<sup>st</sup> Semester: 1<sup>st</sup> Compulsory Credits: 4.0 ECTS****Lecturer(s): José A. Mestre Prates (CCP e R), Mário A. Gonçalves Quaresma****1. Contact hours:**

Lectures – 28, Practicals – 28, Total – 56

**2. Objectives:**

Learning of the general concepts and fundamentals of structural biochemistry and catalysis necessary to the understanding at molecular level of biological phenomena occurring in Veterinary Sciences.

**3. Programme:**

3.1. Theoretical: Biochemistry foundations. Structure and properties of water. Structure of aminoacids, peptides and proteins. The three-dimensional structure of proteins. Protein function. Enzymes and catalysis. Regulatory enzymes. Structure of carbohydrates. Glycobiology. Structure of lipids. Biological membranes and transport.

3.2. Practical: Basic techniques. Electrophoretic techniques. Spectrophotometric techniques.

**4. Bibliography:**

Prates, J. A. M. et al. (2021). *Texto de Apoio das Aulas Teóricas da Disciplina de Bioquímica I*. Edição de 2021/22 & CD-ROM (Bioquímica I, FMV-UL). Lisboa, Faculdade de Medicina Veterinária da Universidade de Lisboa. 160 p. Material fornecido aos Discentes da Disciplina.

Prates, J. A. M. (2021). *Sumários e Protocolos Técnicos das Aulas Práticas da Disciplina de Bioquímica I*. Edição de 2021/22 & CD-ROM (Bioquímica I, FMV-UL). Lisboa, Faculdade de Medicina Veterinária da Universidade de Lisboa. 40 p. Material fornecido aos Discentes da Disciplina.

Nelson, D. L. & Cox, M. M. (2021). *Lehninger Principles of Biochemistry*. 8th edition & CD-ROM (Understand Biochemistry). New York: W. H. Freeman and Company. ISBN 0716743396.

Osgood, M. e Ocorr, K. (2018). *The Absolute, Ultimate Guide to Lehninger Principles of Biochemistry: Study Guide and Solutions Manual*. 7th edition. New York : W. H. Freeman and Company. ISBN 0716759551.

**5. Assessment:**

Theoretical: written examination (75% of final classification). Practical: written examination (25% of final classification).