

DEREE COLLEGE SYLLABUS FOR: BI 1000 INTRODUCTION TO BIOLOGY I		3/2/4						
(Updated: Fall 2024)		UK LEVEL: 4 UK CREDITS: 20						
PREREQUISITES:	None							
CATALOG DESCRIPTION:	An integrated exploration of the fundamentals of biology as a science, the nature of life, biological chemistry, cell biology, metabolism and human body anatomy and function.							
RATIONALE:	The typical second half of the introductory biology course with labs, suitable for science-oriented programs. The course provides a good understanding of biology, supports the importance of biology in society and is closely connected to other disciplines, such as environmental science, phycology, information technology, philosophy and sociology. It covers basic aspects of cell biology, biochemistry, human physiology and anatomy.							
LEARNING OUTCOMES:	<i>As a result of taking this course, the student should be able to:</i> 1. Demonstrate good knowledge of the scientific method, core biology concepts and principles. 2. Demonstrate understanding of the nature of life, biological chemistry, cell biology, enzymatic function and cell metabolism. 3. Evaluate biological principles as they apply to the environment, society and health. 4. Demonstrate understanding of fetal pig and human anatomy and of major organ systems structure and function. 5. Develop the necessary analytical skills by practicing inquiry in the laboratory, addressing scientific questions and applying the appropriate methodology.							
METHOD OF TEACHING AND LEARNING:	In congruence with the teaching and learning strategy of the college, the following tools are used: <ul style="list-style-type: none">• Class lectures, interactive learning (class discussions, group work), video presentations, and practical problems solved in class.• Use of the online platform Connect McGraw Hill• Exercises and primary source documents are assigned as homework, the solutions of which are reviewed in class• Laboratory work (some laboratory reports and drawings may be required).• Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.• Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.							
ASSESSMENT:	<table><tr><td colspan="2">Summative:</td></tr><tr><td>1st assessment: a) In-class lab midterm quiz (1/2-hour), 10% (Microscopy slide identification, diagram labelling, organ identification, problem solving, short answers, classification of organisms, chemical reactions of processes etc.) b) In-class midterm examination (2-hour), 30% (Multiple choice, short answers, matching, essay questions combination, problem solving)</td><td>40%</td></tr><tr><td>2nd assessment Portfolio (questions aiming to prepare students for exams)</td><td>10%</td></tr></table>		Summative:		1 st assessment: a) In-class lab midterm quiz (1/2-hour), 10% (Microscopy slide identification, diagram labelling, organ identification, problem solving, short answers, classification of organisms, chemical reactions of processes etc.) b) In-class midterm examination (2-hour), 30% (Multiple choice, short answers, matching, essay questions combination, problem solving)	40%	2 nd assessment Portfolio (questions aiming to prepare students for exams)	10%
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INDICATIVE READING:	<p data-bbox="643 925 898 954">REQUIRED READING:</p> <p data-bbox="643 965 1525 1025">Required Textbook: Mader, S. S. & Windelspecht, M. <i>Latest Edition. Inquiry Into Life.</i> McGraw-Hill Higher Education.</p> <p data-bbox="643 1032 1525 1093">Required Lab Manual: Mader, S. S. <i>Latest Edition. Inquiry Into Life, Lab Manual.</i> McGraw-Hill Higher Education.</p> <p data-bbox="643 1133 973 1162">RECOMMENDED READING:</p> <p data-bbox="643 1173 1500 1234">Other sources, including journal and newspapers' articles, research papers etc. recommended by the instructor throughout the semester.</p>						
INDICATIVE MATERIAL: (e.g. audiovisual, digital material, etc.)	<p data-bbox="643 1305 914 1335">REQUIRED MATERIAL:</p> <p data-bbox="643 1346 691 1375">N/A</p> <p data-bbox="643 1413 987 1442">RECOMMENDED MATERIAL:</p> <p data-bbox="643 1453 691 1482">N/A</p>						
COMMUNICATION REQUIREMENTS:	Verbal and written skills using academic / professional English.						
SOFTWARE REQUIREMENTS:	MS Office and Blackboard CMS						
WWW RESOURCES:	http://www.dnalc.org http://www.medtropolis.com/VBody.asp http://www.whitman.edu/biology/vpd/ http://www.cellsalive.com/ http://multimedia.mcb.harvard.edu/media.html http://www.mcb.harvard.edu/BioLinks.html http://www.mhhe.com/biosci/esp/2002_general/Esp/default.htm http://nhscience.lonestar.edu/biol/bio1int.htm http://biology.uco.edu/AnimalBiology/Tissues/Tissuhome.html http://www.sciam.com						
INDICATIVE CONTENT:	1. Introduction						

	<ol style="list-style-type: none"> 1.1 A brief history of science and biology 1.2. The scientific method 1.3. The framework of biology (levels of organization) 2. The cell theory <ol style="list-style-type: none"> 2.1. Organization and structure of the cell 2.2. Plant tissues and structure 2.3. Animal tissues 3. Molecular aspects of biology (biological macromolecules, enzymes) 4. Cell metabolism <ol style="list-style-type: none"> 4.1. Anabolism and catabolism 4.2. Movement of materials 4.3. Photosynthesis 4.4. Cellular respiration 5. Maintenance and integration of organisms (plants and animals, with emphasis on humans) <ol style="list-style-type: none"> 5.1. Intake, digestion, assimilation and nutrition 5.2. Respiration 5.3. Transportation, circulation and immunity 5.4. Secretion and excretion 5.5. Senses, nervous system, chemical coordination and nervous coordination 6. Human reproduction (anatomy and physiology)
INDICATIVE CONTENT (LAB):	<ol style="list-style-type: none"> 1. Laboratory Safety. Rules and Regulations. Use of the Microscope and the Cell 2. Movements of Materials- Electron Micrographs 3. Plant Tissues 4. Animal Tissues 5. Metabolism: Photosynthesis 6. Metabolism: Respiration 7. External Anatomy and Neck Region (Fetal Pig and Human Anatomy) 8. Digestive System (Fetal Pig and Human Anatomy) 9. Circulatory System: Arteries and Veins (Fetal Pig and Human Anatomy) 10. Circulatory System: Heart, Respiratory System (Fetal Pig and Human Anatomy) 11. Urogenital and reproductive System (Fetal Pig and Human Anatomy, Sexually Transmitted Diseases) 12. Senses and Nervous System (Fetal Pig and Human Anatomy)