

**DEREE COLLEGE SYLLABUS FOR: BMS 4440 TOPICS IN PATHOPHYSIOLOGY****UK LEVEL: 6  
UK CREDITS: 15  
US CREDITS: 3/0/3**

(Updated Fall 2022)

**PREREQUISITES:**

BI 1000 Introduction to Biology I  
 BI 1101 Introduction to Biology II  
 BI 3235 Cell and Molecular Biology  
 BI 3240 Human Anatomy and Physiology

**CATALOG DESCRIPTION:**

An integrated exploration of human pathophysiology. Focuses on molecular, cellular, physiologic and pathologic processes contributing to diseases. Specific cases, research and bioethics questions are explored in a critical and analytical approach including the existing and experimental treatment strategies.

**RATIONALE:**

Topics in Pathophysiology is a subject that is becoming increasingly important in clinical practice. Concept questions prompt recall of basic facts, while cases, research questions, and bioethics questions challenge the student to apply key concepts to very real situations. The point is that knowledge in pathophysiology is an in-depth approach to understanding mechanisms of most human diseases. It helps students integrate molecular, cellular, physiologic and pathologic processes contributing to diseases. Furthermore, students will be helped to develop a critical and analytical approach to explaining specific case histories, explain the interaction of environmental and stress factors on the pathogenesis of human diseases but also develop a critical and analytical approach to explaining specific case histories. Biomedical sciences students will be in the position to discuss existing and experimental treatment strategies.

**LEARNING OUTCOMES:**

As a result of taking the course students should be able to:

1. Discuss the mechanisms and life implications associated with a range of diseases.
2. Critically evaluate the use of clinical findings, imaging techniques, tests of physiological function and laboratory data in the identification, aetiology, diagnosis and pathogenesis of disease.
3. Demonstrate a critical and analytical approach to specific case histories of human disease and discuss diagnostics approaches and laboratory tests, including techniques in heamatology.
4. Discuss treatment and consequences (risk-benefit ratio) of selected disease states.
5. Conduct appropriate literature-based research/evaluation of relevant topics.

**METHOD OF TEACHING AND LEARNING:**

In congruence with the learning and teaching strategy of the college, the following tools are used:

- Class lectures, interactive learning (class discussions, group work) video presentations, and practical problems solved in class.
- Exercises and primary source documents are assigned as homework, the solutions of which are reviewed in class
- Master lectures by retired professors and other experts in the field.
- Lectures on the principles and understanding of the subject matter, including original data from primary research papers and other sources.
- Tutorials of an interactive format to establish understanding of topic areas primarily through case studies and experimentally derived data.
- 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.

<b>ASSESSMENT:</b>	<p><b>Summative:</b></p> <table border="1"> <tr> <td> <b>First Assessment</b>            In-class midterm examination (2-hour) 40%            Multiple choice, problems, essays, combination         </td> <td style="text-align: center;">40</td> </tr> <tr> <td> <b>Second Assessment</b>            Final examination, Case Study (2-hour), comprehensive 60%            Final Exam/Case study Analysis         </td> <td style="text-align: center;">50</td> </tr> <tr> <td> <b>Third assessment</b>            Portfolio             Essay questions aiming to prepare students for their first and second assessments in terms of content, context and time management         </td> <td style="text-align: center;">10</td> </tr> </table> <p><b>Formative:</b></p> <table border="1"> <tr> <td>           Multiple "diagnostic on-line" tests            Multiple choice, short answers, essays         </td> <td style="text-align: center;">0</td> </tr> </table> <p>The <b>formative MC (on-line) and written essays</b> aim to prepare students for the examination. Students are expected to submit feedback on their performance.        The 1<sup>st</sup> summative assessment tests Learning Outcomes 1, 2        The final examination tests all learning outcomes and it is comprehensive.</p> <p><i>The final grade for this module will be determined by averaging all summative assessment grades, based on the predetermined weights for each assessment. If students pass the comprehensive assessment that tests all Learning Outcomes for this module and the average grade for the module is 40 or higher, students are not required to resit any failed assessments.</i></p>	<b>First Assessment</b> In-class midterm examination (2-hour) 40% Multiple choice, problems, essays, combination	40	<b>Second Assessment</b> Final examination, Case Study (2-hour), comprehensive 60% Final Exam/Case study Analysis	50	<b>Third assessment</b> Portfolio  Essay questions aiming to prepare students for their first and second assessments in terms of content, context and time management	10	Multiple "diagnostic on-line" tests Multiple choice, short answers, essays	0
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<b>INDICATIVE READING:</b>	<p><b>REQUIRED READING:</b> Pathophysiology, 6th Edition            by Jacquelyn L. Banasik, PhD, ARNP ISBN: 9780323354813            Copyright: 2018            Imprint: Saunders</p> <p><b>RECOMMENDED READING:</b> N/A</p>								
<b>INDICATIVE MATERIAL:</b> (e.g. audiovisual, digital material, etc.)	<p><b>REQUIRED MATERIAL:</b> N/A</p> <p><b>RECOMMENDED MATERIAL:</b> N/A</p>								
<b>COMMUNICATION REQUIREMENTS:</b>	N/A								
<b>SOFTWARE REQUIREMENTS:</b>	Microsoft Word, Microsoft PowerPoint, Blackboard CMS								
<b>WWW RESOURCES:</b>									

BMS 4440

**INDICATIVE  
CONTENT (LEC):**

- Overview of the various organ systems
- Pathophysiological processes
- Correlation of histopathology to diseases pathogenesis
- Interaction between the brain and the rest of the body
- Effect of environmental triggers on disease processes
- Multi-endocrinopathies
- Hypersensitivities
- Transfusion reactions
- Autoimmune conditions
- Poorly defined and hard to treat diseases (e.g. chronic inflammatory response syndrome, fibromyalgia syndrome)
- Myalgic encephalomyelitis/chronic fatigue syndrome)
- Microbiota-brain interactions
- Post-Lyme syndrome
- Diagnostic approaches and laboratory tests, including heamatology
- Current and experimental therapies
- Use of natural molecules, supplements and vitamins
- Drug-drug and drug-food interactions
- Drugs of abuse