

**Advanced Pathophysiology and Pharmacology**  
**ID 492**  
**Module One: Sepsis, Shock, Multiple Organ Failure**

**Instructors:**

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**A. Course objectives:**

ID 412 is an in-depth, comprehensive study of the physiology of shock, sepsis, multiple organ failure and the pharmacological treatment of these disease processes. Students will gain an understanding of how diseases affect normal physiology and how the body responds to stimuli, which disrupt homeostasis.

**B. Course prerequisites:**

All students enrolled in this course must have successfully completed (a grade of C or above) Biology 312 (Pathophysiology) and Nursing 312 (Pharmacology) or equivalent.

**D. Student responsibilities:**

Students must come prepared to class each week by reviewing normal physiology prior to class. Class and small group discussions will comprise a significant portion of the class and student participation is required. These discussions depend on adequate student preparation and participation. Students are responsible for all lecture materials and completing all reading assignments in a timely manner. Students are expected to check BbCe regularly for course announcements, announcements and email.

**E. Textbooks and Reading Materials**

There are no required textbooks for this class. However, a copy of both a pathophysiology text and pharmacology text is recommended to serve as a reference.

## **E. Evaluation:**

Grades will be based on points earned on quizzes, class participation, and a team presentation. Peer evaluation will be a component of student grades.

1. There will be four quizzes, each worth 25 points at the beginning of each class period (with the exception of the first class period).
2. Each student team will present a case study during the final class period. This presentation will be worth 25 points.
3. Student class participation is worth 50 points (10 points/class). These participation points will be calculated using both faculty and peer input.

All students enrolled in this class will receive a letter grade. Auditing the class is not permitted because of the significant participation component of the class.

93-100% = A    90-92% = A-    87-89% = B+    83-86% = B  
80-82% = B-    77-79% = C+    73-76% = C    70-72% = C-  
67-69% = D+    60-66% = D    less than 60% = F

Attendance is mandatory. Absences will be excused only for documented medical situations. Because the grade in this class is in part determined by participation, an unexcused absence will result in deduction of participation points. Quizzes can be made up only in the case of an excused absence.

*If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in the building must be evacuated, please make an appointment to talk with me.*

## **F. Tentative Course Schedule:**

### **Week One:**

- 1.) Introductions and Team Formation
- 2.) Inventory of Knowledge (Team Exercise)
- 3.) Overview of Shock: Stages (Jane)
- 4.) Clinical Manifestations based on Stages (Team Exercise)
- 5.) Goals of Treatment (Class Discussion lead by Ella-Mae and Team Exercise)

**Week Two:**

- 1.) Quiz 1 (25 points)
- 2.) Cardiogenic Shock
  - Causes and Pathophysiology (Jane)
  - Clinical Manifestations & Treatment (Ella-Mae)
- 3.) Hypovolemic Shock
  - Causes and Pathophysiology (Jane)
  - Clinical Manifestations & Treatment (Ella-Mae)
- 4.) Case Studies (Team Exercise)
- 5.) Summary (Class Discussion; Lead by Jane and Ella-Mae)

**Week Three:**

- 1.) Quiz 2 (25 points)
- 2.) Anaphylactic Shock
  - Causes and Pathophysiology (Jane)
  - Clinical Manifestations & Treatment (Ella-Mae)
- 3.) Neurogenic Shock
  - Causes and Pathophysiology (Jane)
  - Clinical Manifestations & Treatment (Ella-Mae)
- 4.) Case Studies (Team Exercise)
- 5.) Summary (Class Discussion; Lead by Jane and Ella-Mae)

**Week Four:**

- 1.) Quiz 1 (25 points)
- 2.) Septic Shock
  - Causes and Pathophysiology (Jane)
  - Clinical Manifestations & Treatment (Ella-Mae)
- 4.) Case Studies (Team Exercise)
- 5.) Summary (Class Discussion; Lead by Jane and Ella-Mae)

**Week Five:**

- 1.) Quiz 1 (25 points)
- 2.) Multiple Organ Failure
  - Causes and Pathophysiology (Jane)
  - Clinical Manifestations & Treatment (Ella-Mae)
- 4.) Case Studies and Presentations (Team Exercise)
- 5.) Summary (Class Discussion; Lead by Jane and Ella-Mae)