Dr. Brown

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| BME3404 | Fall 2024 |

BME3404 HML table (\*\*please ensure this information is correct)

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| A | B | C | D | E | F | G |
| **H** | **L** | **H** | **L** |  | **H** | **M** |

Course outcome table on file shows A, C and F are high priority. Needed are 2 examples for each.

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| BME Outcome A |
| Number of Students tested: 24 |

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| First sample question to meet outcome A:  Term Paper  **New clinical devices and technologies (both diagnostic and therapeutic) are being tested and approved in this country every year.  In recent years the cardiovascular system and the orthopedic sector have been targeted by many companies and a number of exciting new technologies have emerged.**     1. **Pick two approved devices or technologies that have had an impact on either cardiovascular disease or orthopedics with respect to their diagnosis or treatment.  You may choose to do two devices from cardiology, two from orthopedics or one from each.** 2. **Identify the unmet clinical need each was designed to fulfill.** 3. **Explain the reasons behind the success or failure of device in meeting the need.** 4. **Identify any major, unanticipated problems that have occurred since each has been approved. (unexpected deaths, life threatening adverse events, product recalls, etc.)** 5. **If any problems occurred, why do you think they occurred and what could have been done to prevent them.**     **The paper should be approximately 6-7 pages in length (12 point font, double spaced with no extra spacing between paragraphs) and will account for 100 points of the final grade.  Please include references at the end of the paper.  References are required (standard format of your choice)**  **You also must get a review of your paper from the FIU Center for Excellence in Writing and show me proof that you met with them.  The proof must be attached to your assignment.** | Second sample question to meet outcome A:  Question 20, Test 3  **20.** The Ventilation/Perfusion ratio of the alveoli is maintained as close to 1 as possible mostly by which of the following methods?  a. Local regulation in the lungs of the arterioles and bronchioles using Oxygen alone. b. Local regulation in the lungs of the arterioles and bronchioles using Carbon dioxide alone c. Local regulation in the lungs of the arterioles and bronchioles using both Oxygen and Carbon dioxide. d. By feedback using the central and peripheral chemoreceptors that assess Oxygen and Carbon dioxide levels in the blood. e. None of the above |
| Average Score: 98.3/100 98.3% | Average Score: 1.25/2 62.5% |

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| BME Outcome C |
| Number of Students tested: 24 |

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| First sample question to meet outcome C:  **Term Paper- Students who successfully demonstrated meeting with the writing center** | Second sample question to meet outcome C:  **Learning Assignment 1**  **Written assignment: Heart valves have undergone dramatic changes in the last 50 years.  I want you to write a 4-5 page paper summarizing the progress that has been made with the design, biocompatibility, thrombogenicity, materials used and the different methods of insertion.  If Turnitin comes back with greater than 30% for either copying or use of artificial intelligence to write the paper, you will be asked to resubmit it until it comes under those values.  If no resubmission is received, a zero grade will be given.** |
| Average Score: 98.3/100.0 98.3% | Average Score: 97.3/100.0 97.3% |

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| BME Outcome F |
| Number of Students tested: 24 |

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| First sample question to meet outcome F:  **Final Exam- Question 31  16. A coronavirus patient needs a donation of convalescent plasma from someone who had the disease. The patient’s blood type is B+. From which of the following donor blood types could they receive plasma?**  **A. Type O+, O-, AB+ and AB- B. Type A+, A-, B+ and B- C. Type AB+, AB-, B+ and B- D. Type O+ and O- E. Type A+ and A-** | Second sample question to meet outcome F:  **Test 4- Question 3.  3. Calculate the creatinine Clearance of a patient in ml/minute from the following laboratory data. Serum Creatinine- 1.4 mg/dL; Urine Creatinine- 120 mg/dL; Volume of Urine Collected over a 24 hr. period- 1.4 L/day.**  **A. 1999.92 ml/min B. 83.3 ml/min C. 41.65 ml/min D. 166.6 ml/min E. 50.5 ml/min** |
| Average Score: 1.6/2.0 80.0% answered correctly | Average Score: 1.9/2.0  95.0% answered correctly |