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| <p>Course Name: KNPE 327/3.0 Exercise Physiology Laboratory</p> | <p>Course Instructor: Dr. Brendon Gurd</p> | <p>Contact Hours: Lectures: 2 x 1 hr / 12 weeks Labs: 1 x 3 hr / 12 weeks</p> | | | | | | | | | | |
| | | <p>Prerequisite: KNPE 125/3.0, KNPE 225/3.0, KNPE 227/3.0 Level 3 or above in a KINE Plan</p> | | | | | | | | | | |
| | | <p>Exclusions:</p> | | | | | | | | | | |
| <p>Course Description:</p> <p>This lecture/laboratory experience is designed to establish student understanding of, and technical skills in, the measurement of human physiological responses and performance capacity in exercise. Students will learn the technical and theoretical basis for such measurement and develop familiarity with tests of physiological function during rest and exercise. This is intended to prepare them for experiences in human performance, clinical and medical settings.</p> | | <p>Course Texts:</p> <p>Course notes and team-based learning session outlines will be posted on the KNPE 327 onQ page.</p> | | | | | | | | | | |
| <p>Learning Outcomes:</p> <ul style="list-style-type: none"> • Describe the physiological responses to exercise that influence performance capacity. • Organize and conduct human performance capacity assessments to obtain valid and reliable responses and measures. • Integrate knowledge of laboratory and field performance capacity assessments to distinguish the contexts and populations that are most suited for each assessment. • Investigate exercise physiology and exercise testing literature to explore advances in exercise testing techniques and the interpretation of physiological responses. | | <p>Course Evaluation:</p> <table> <tr> <td>Lab Assignments (9 total)</td> <td>20%</td> </tr> <tr> <td>Test 1</td> <td>15%</td> </tr> <tr> <td>Test 2</td> <td>15%</td> </tr> <tr> <td>Combine Assignment</td> <td>15%</td> </tr> <tr> <td>Final Exam</td> <td>35%</td> </tr> </table> | Lab Assignments (9 total) | 20% | Test 1 | 15% | Test 2 | 15% | Combine Assignment | 15% | Final Exam | 35% |
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| <p>Course Outline</p> | | | | | | | | | | | | |
| Principles of Measuring and Reporting Human Physiological Responses to Exercise | Incremental Exercise Test: Aerobic Function in Exercise / Maximal aerobic capacity | | | | | | | | | | | |
| Data Acquisition, Analysis and Presentation | Ventilatory Threshold | | | | | | | | | | | |
| Measures of Reliability | Pulmonary Function in Rest and Exercise | | | | | | | | | | | |
| Cardiovascular Response to Exercise | | | | | | | | | | | | |

| Laboratory | |
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| Data Acquisition, Analysis and Presentation | Familiarization |
| Response to Exercise: Familiarization | Increased Dead Space and Resistance |
| Cardiovascular Response to Exercise | Aerobic Function in Exercise |
| Reliability and Physiology | Ventilatory Threshold |
| Pulmonary Function in Rest and Exercise | VO ₂ Max |
| Create Data Set demonstrating Systematic Error | Data for Laboratory Report |
| Reliability Measures / Measurement Error | Response to Alveolar Ventilation Disturbance in Exercise |
| Sex Differences in Cardiovascular Response to Exercise | Create Data Set with low inter-individual range vs. with high inter-individual range and compare ICC's |
| Valid Data Collection vs. Sources of Error Problem | Valid Data Collection vs. Sources of Error Problem |
| Laboratory Report Writing | Figure and Figure Legend Creation |