**Science or Computer Science Courses – Curriculum Map to 2010 AAOT Outcomes**

**Department/Discipline: Health, Athletics and PE Course: EXMS 120**

**1. Science or Computer Science Discipline Studies Outcomes**

| **As a result of taking Science or Computer Science Discipline Studies courses, a student should be able to:** | **Course Outcome(s) related to the Science or Computer Science Outcome** | **Under what conditions and criteria will the course outcome be assessed? (i.e., a menu of suggested assessment options)** |
| --- | --- | --- |
| 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models and solutions and generate further questions. | Lab assignments/reports on benefits of exercise (or similar lab assignments)  Independent project on an area of controversy in exercise science and poster session presentation. Students will make suggestions for future research. | Assessed in lab assignments, quizzes, exams, and class discussion  Assessed in major final project |
| 1. Apply scientific and technical modes of inquiry, individually and collaboratively, to critically evaluate existing or alternative explanations, solve problems, and make evidence-based decisions in an ethical manner. | The scientific method is a major topic and will be applied in all assignments.  Exercise epidemiology questions will be supported with available data and presented in graphical format.  Independent project on area of controversy in exercise science and poster session presentation. A logical evidence-based opinion is required. | Assessed in lab assignments, quizzes, exams, and class discussion  Assessed in lab assignments quizzes exams  Assessed in major final project |
| 1. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment**.** | Case studies in exercise science that include context. The Framingham Heart Study and concussion research (or similar) will be studied showing historical context through to current challenges. | Assessed in lab assignments, quizzes, exams, and class discussion |

**2. Science or Computer Science Discipline Studies Course Criteria**

| **A General Education course in either Science or Computer Science should:** | **How course meets criterion** | **Related Course Outline statements** |
| --- | --- | --- |
| 1. Analyze the development, scope, and limitations of fundamental scientific concepts, models, theories, and methods. | Case studies in exercise science that include context. The Framingham Heart Study and concussion research (or similar) will be studied showing historical context through to current political challenges. | Assessed in lab assignments, quizzes, exams, and class discussion |
| 1. Engage students in problem-solving and investigation, through the application of scientific and mathematical methods and concepts, and by using evidence to create and test models and draw conclusions. The goal should be to develop analytical thinking that includes evaluation, synthesis, and creative insight. | Lab assignments/reports on benefits of exercise (or similar lab assignment). Experiments will be student generated and directed emphasizing the creative and analytical components of the scientific process.  Exercise epidemiology questions will be supported with available data and presented in graphical format.  Independent project on area of controversy in exercise science and poster session presentation | Assessed in lab assignments, quizzes, exams, and class discussion  Assessed in lab assignments, quizzes, exams, and class discussion  Assessed in major final project |
| 1. Examine relationships with other subject areas, including the ethical application of science in human society, and the relevance of science to everyday life. | Exercise epidemiology is a major area of study. Public health aspects focus on human society and health benefits studied benefit daily life.  Case studies in exercise science that include context. Ethical, political and financial decisions that shape research will be discussed.  Independent project on area of controversy in exercise science and poster session presentation | Assessed in lab assignments, quizzes, exams, and class discussion  Assessed in lab assignments, quizzes, exams, and class discussion  Assessed in major final project |
| **In addition, a General Education course in Science should:** | **How course meets criterion** | **Related Course Outline statements** |
| * Engage students in collaborative, hands-on and/or real-life activities that develop scientific reasoning and the capacity to apply mathematics, and that allow students to experience the exhilaration of discovery, and | Lab assignments/reports on benefits of exercise (or similar lab assignment). Experiments will be student generated emphasizing the creative process. Students will analyze their own data and explain their results!  Independent project on area of controversy in exercise science and poster session presentation. Students will be supported in the research process as they practice reading scientific publications. Students will feel a sense of pride and progress as their projects progress in their understanding and formulate a position on the controversial topic, culminating in a poster session where they can share their expertise. | Assessed in lab assignments, quizzes, exams, and class discussion  Assessed in major final project |
| **A General Education course in Computer Science should:** | **How course meets criterion** | **Related Course Outline statements** |
| * Engage students in the design of algorithms and computer programs that solve problems. | N/A |  |

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**Instructor Date Academic Dean Date**