Course Title and Number: Introduction to the Science of Health and Fitness KINE 223 – 3 credit
Term: Fall 2014
Meeting Time: TR 8:00-9:15
Location: COLS 121

Course Description: Overview of the human body systems. Interdisciplinary focus on wellness, fitness, nutrition, disease, and drug use. Integrated physical activity experiences centering on principles and applications of the scientific basis of conditioning. Students collect data related to stress, health-related fitness, and nutrition, evaluate information, and formulate a plan based on their findings. Hands-on experience with pedometers, heart rate monitors, bioelectrical impedance devices, software, and other innovative technology to monitor and evaluate diet and activity levels. Not open to students who have taken KINE 120.

Prerequisites: None. Course uses basic biology, chemistry, & physics concepts.

Course Content: 2 Lecture hours and 2 Application hours each week (3 credit course). Students participate in 1 lecture hour outside of class by accessing course website for lectures and class discussion. In addition to 1 hour of face to face lecture time, students spend 2 hours each week immersed in integrative (hands on learning).

Learning Outcomes: By the end of the semester, the student should be able to:

- Recognize the outcome of healthy and unhealthy behaviors on the human body systems.
- Discuss the impact of wellness choices on the individual and society.
- Demonstrate principles of training and explain how science forms the basis of those principles.
- Diagnose common problems with training methods and offer feedback concerning safety and technique.
- Evaluate health-related performance and formulate a plan based on their findings.
- Communicate and work effectively with team members in a fitness setting.
- Describe scientific principles of health and disease and their implication on the human experience and the physical world.
- Explore the scientific method by discussing current research in health & conditioning.
- Generate discussion regarding a current health recommendation.
- Apply critical thinking skills to analyze and evaluate health recommendations for the natural phenomena of longevity and disease.
- Incorporate the scientific method in a fitness experiment (construct a scientific hypothesis, identify a testable prediction, collect & process data, analyze data, and evaluate the results).
Class Requirements

Class Activities (10 points)
Participate in discussion, polling, application activities, & fitness training.

Research Analysis (10 points)
Identify a controversial health recommendation. Analyze current scientific research and examine the use of the scientific method. Provide a 250 word critique.

Fitness Experiment (10 points)
Examine how performance is assessed and construct a hypothesis about the fitness levels of a 199 running class at the beginning of the semester. Collect 1.5 mile run data at the start of the semester. Process the data. Run statistical analysis. Look at the data distribution and how it compares to the average population. Evaluate the results.

Performance Reports (20 points)
Based on direct and in-direct assessments of health-related fitness, generate a written report to evaluate performance and formulate a plan for maintenance or improvement.

Movement Analysis (15 points)
Demonstrate a training method. Analyze the movement through video and offer feedback concerning safety and technique.

Assessment – Principles of Training (10 points)
Questions cover principles of training and how science forms the basis of those principles.

Assessment 1 – Current Health Topics (10 points)
Questions cover the scientific method, the wellness continuum, behavior change strategies, scientific principles of fitness training, hypokinetic conditions, nutrition, weight management, complementary & alternative medicine and its impact on the human experience.

Assessment 2 – Current Health Topics (15 points)
Questions primarily focus on scientific principles of human disease, reproduction, pregnancy, sexually transmitted infections and drug use on the human body and its influence on the human experience. Additional questions cover key concepts from the semester.

Grading Scale
90-100 = A
80-89 = B
70-79 = C
60-69 = D
Below 60 = F

Academic Integrity
For additional information please visit: http://aggiehonor.tamu.edu

"An Aggie does not lie, cheat, or steal, or tolerate those who do."
Americans with Disabilities Act (ADA)
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu

ATTENTION STUDENTS:
1. It is the responsibility of the student to inform his/her instructor if they have a condition that may impair or influence participation in an activity class (e.g. physical handicap, use of medication, etc.).
2. Should you become unable to participate in or complete the skill evaluation in this activity class, alternative methods of evaluation may be provided at the instructor’s discretion.
3. The courses in which you have elected to participate are either required as part of your major or elected. Regardless of the case, you must realize that there is a certain assumption of risk, which you engender when you participate in activity classes such as these. You must be aware of the assumption.

ATTENDANCE POLICY

Attendance is a critical component of all KINESIOLOGY classes and is essential to learning a skill. Additionally due to the skill progressions found in teaching activities, it is crucial, for safety reasons, to require regular attendance.

For classes that meet two times a week for the full semester:
A student shall be allowed 2 unexcused absences without penalty. For each unexcused absence beyond the first two unexcused absences, 15 points will be deducted from the final grade.

PLEASE NOTE: A student will automatically fail upon receiving the 4th unexcused absence.

Excused absences, as defined in Rule 7 of the Texas A&M University Student Rules http://student-rules.tamu.edu/rule07 will not result in any point deduction; however, written documentation will be required to receive an excused absence.

One point will be deducted from the final grade for each tardy up to 10 minutes. After 10 minutes, the student is considered absent.

Updated 04/13
Sample of KINE 223 (3 credit) Course Topics, Calendar of Activities, & Major Assignment Dates


<table>
<thead>
<tr>
<th>Lecture/Applied Skill</th>
<th>Assigned Reading</th>
<th>Integrative Learning Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1</strong> Lecture Topics: Wellness Continuum, &amp; Scientific Inquiry</td>
<td><strong>Assigned Reading</strong></td>
<td><strong>Integrative Learning Experience</strong></td>
</tr>
<tr>
<td>Weight Room Orientation</td>
<td>Ch. 1 Bounds et al. Ch. 1-3 Cissik, J.</td>
<td><strong>Measuring heart rate &amp; blood pressure</strong></td>
</tr>
<tr>
<td><strong>Week 2</strong> Lecture Topics: Behavior Change &amp; Goal Setting Strategies, Create a Hypothesis</td>
<td><strong>Assigned Reading</strong></td>
<td><strong>Integrative Learning Experience</strong></td>
</tr>
<tr>
<td>Applied Skill: Lower Body</td>
<td>Ch. 2 Bounds et al. Ch. 10 Cissik, J.</td>
<td><strong>Field Based Learning - Analyzing heart rate &amp; blood pressure pre &amp; post guided relaxation activities</strong></td>
</tr>
<tr>
<td><strong>Week 3</strong> Lecture Topics: Stress, Coping Mechanisms, Collect Data</td>
<td><strong>Assigned Reading</strong></td>
<td><strong>Integrative Learning Experience</strong></td>
</tr>
<tr>
<td>Applied Skill: Chest &amp; Triceps</td>
<td>Ch. 6&amp;9 Cissik, J.</td>
<td><strong>Assessing performance - 1 mile walk</strong></td>
</tr>
<tr>
<td><strong>Week 4</strong> Lecture Topics: Analyzing longevity blue zones, Data cont..., Exam 1</td>
<td><strong>Assigned Reading</strong></td>
<td><strong>Integrative Learning Experience</strong></td>
</tr>
<tr>
<td>Applied Skill: Shoulders</td>
<td>Ch. 3 Bounds et al. Ch. 8 Cissik, J.</td>
<td><strong>Assessing performance - muscular strength &amp; endurance</strong></td>
</tr>
<tr>
<td><strong>Week 5</strong> Lecture Topics: Cardiovascular &amp; Muscular Conditioning, Process Data</td>
<td><strong>Assigned Reading</strong></td>
<td><strong>Integrative Learning Experience</strong></td>
</tr>
<tr>
<td>Applied Skill: Back &amp; Biceps</td>
<td>Ch. 7 Cissik, J.</td>
<td><strong>Assessing performance - hamstring &amp; low back flexibility</strong></td>
</tr>
<tr>
<td><strong>Week 6</strong> Lecture Topics: Flexibility Training, Analyze data &amp; evaluate the results</td>
<td><strong>Assigned Reading</strong></td>
<td><strong>Integrative Learning Experience</strong></td>
</tr>
<tr>
<td>Applied Skill: Push-Pull Design</td>
<td>Ch. 5 Cissik, J.</td>
<td><strong>Assessing Back Health</strong></td>
</tr>
<tr>
<td><strong>Week 7</strong> Lecture Topics: Hypokinetic Conditions</td>
<td><strong>Assigned Reading</strong></td>
<td><strong>Integrative Learning Experience</strong></td>
</tr>
<tr>
<td>Training Method: Pyramid Design (light to heavy)</td>
<td>Ch. 4 Bounds et al.</td>
<td><strong>Assessing Back Health</strong></td>
</tr>
</tbody>
</table>
| Week 8 | **Lecture Topics:** Nutrition Fundamentals, Bioenergetics,  

  *Training Method:* Pyramid Design (heavy to light) | Ch. 5 Bounds et al. | Interpreting Dietary Intake & Physical Activity |
|---|---|---|
| Week 9 | **Lecture Topics:** Scientific Principles of Lifetime Weight Management, Body Composition  

  *Training Method:* Body Weight Design | Ch. 6 Bounds et al. | **Field Based Learning** – Supermarket Visit Exploring Food Labels & Dietary Recommendations |
| Week 10 | **Lecture Topics:** Eating Disorders,  

  *Exam 2*  

  *Training Method:* Endurance | Ch. 7 Bounds et al. | Assessing Body Composition |
| Week 11 | **Lecture Topics:** Psychoactive Drugs, Nicotine, Alcohol, Prescription & Illicit Drugs  

  *Training Method:* Power | Ch. 9 Bounds et al. | Creating Resource Materials related to Psychoactive Drugs |
| Week 12 | **Lecture Topics:** Human Diseases (Communicable Diseases)  

  *Training Method:* Circuit Design | Ch. 11 Bounds et al. (pgs. 388-395) | Interpreting Vaccine Recommendations |
| Week 13 | **Lecture Topics:** Human Diseases cont... (Non-Communicable Diseases)  

  *Applied Skill: Movement Analysis*  

  *Training Method:* Supersets | Ch. 11 Bounds et al. (pgs. 396-412) | Reflective Analysis of Family Health Portrait |
| Week 14 | **Lecture Topics:** Reproduction, Pregnancy, & Sexually Transmitted Infections  

  *Training Method:* Supersets | Ch. 8 Bounds et al. | Creating Dialogue concerning Sexual Health Decisions |
| Week 15 | **Final Exam** | | |