GEORGE MASON UNIVERSITY  
School of Recreation, Health and Tourism

PHED 450-001, 002, & 201 – Physiology of Exercise (4)  
Lecture: Section 001: Tues & Thurs 9:00 – 10:15 AM  
Section 002: Tues & Thurs 1:30 – 2:45 PM  
Lab: Tues 10:30 – 11:45 AM  
Spring 2010

Professor: Dr. Jason Winchester
Teaching Assistant: Mr. Matthew Andre
Office: Room 208A Bull Run Hall (Prince William Campus)
Office Hours: Tuesday: 3:00 – 4:00 PM & Thursday: 10:30 – 11:30 AM
Email: jwinches@gmu.edu  
mandre@gmu.edu
Office Phone: (703) 993 – 3247 – If you cannot reach me there, send an e-mail directly to my Mason account (not via Blackboard) or, you can leave a message on my office voicemail and I will get back to you ASAP.

Class Location:
Lecture Section 001: Room 257 Bull Run Hall  
Lecture Section 002: Room 247 Bull Run Hall  
Seminar Section 201: Room 302: Occoquan

Prerequisites:
BIOL 124, 125, or BIOL 103, 228; and PHED 300

Course Description:
Lecture: This portion of the course is a demanding study in the theory of exercise physiology. Its purpose is to introduce students to the physiologic, neuroendocrine, and biochemical changes of the human body which are associated with either a single bout of exercise or chronic work.
Lab: The laboratory portion of this course will be treated as a seminar on current topics in the field of exercise science. Weekly evidence-based presentations will take place, and article reviews will be assigned to reinforce concepts discussed in the seminar sessions. Material presented during seminar is fair game for the final exam.

Objectives:
Upon successful completion of this course, students will be able to:
1. Obtain a workable theoretical knowledge relative to the human's physiologic responses to and capacity for exercise
2. Apply the principles of exercise physiology to help themselves and others achieve optimum work performance
3. Provide intelligent and factual answers related to the effects of work on the human body
4. Attain knowledge toward understanding current topics in the practice of exercise physiology
5. Demonstrate the ability critically review current research and link findings with those discussed in the lab/seminars

Course Overview:
The material for the lecture portion of this class will be presented in lecture/discussion format. All class lectures are available in PDF format, and may be found on BLACKBOARD. Assessment for this course will include 4 unit examinations for the lecture portion of the class and a final exam. In addition, there will be 1 – 12 article reviews based on assignments given in the seminar portion of the class.
Required Readings:
No texts are required however, students who prefer to have an textbook or who feel that they learn better with one are encouraged to purchase one. I will be happy to make recommendations as to suitable texts which may work for you. Please come to office hours and I will be happy to discuss this with you.

- Articles to be assigned in class. **(REQUIRED)**

Class Policies:

✓ Attendance is not required for the lecture or the lab, but is imperative for success in this class. The student is responsible for any information presented, discussed and assigned in class regardless of whether or not the student was present. Make-up tests, quizzes, assignments, or other grades will be granted for excused absences only:
  - serious illness (doctor’s note required)
  - official university excused absences (with proper documentation and prior notification)
  - extenuating circumstances (PRIOR approval should be obtained or direct contact made with the instructor within 24 hours of the event)
  - Please be aware that any student who does not attend the lecture during the initial drop/add phase and has not communicated with me is subject to being administratively dropped from the roster. Roll will be taken up until the last day to add a class only and will not be used in grade calculation with the exception of possible extra credit which will be dealt with at the discretion of the instructor.

✓ When contacting the instructor in reference to class issues via e-mail or other method (for example a note in my mail box or on my office door), if you do not receive confirmation that I have received your message, project, etc., within a reasonable time period (2 work days), then I did not get it! In other words, if you do not hear back from me, please follow up to make sure we are communicating effectively!

✓ I do not check or respond to my work e-mail on weekends or holidays. In other words, if you write me an e-mail on Friday night, don’t expect to hear back until sometime on Monday.

✓ Please check Blackboard e-mail account prior to coming to class. If I am ill or there is a change in the class location, materials required, or meeting time, I will send an e-mail out via blackboard to all of your Mason student accounts.

✓ Students are always encouraged to come to office hours in order to ask additional questions on the material or to gain a better understanding of grades on exams or assignments.

✓ All students are expected to conduct their work for this class as spelled out in the George Mason University Honor Code. All class projects are subject to evaluation under plagiarism detection software such as “Turn It In” or “SafeAssign”.

✓ Student employment does not take priority over academic obligations. I recognize that many students need to work in order to meet living expenses, however, there are distinct guidelines for students in terms of the number of credit hours which should be attempted based on how many hours per week a student has outside employment. For additional information on this subject, please see the GMU student handbook.

Evaluation:

EXAM REVIEWS:
As time allows in class and depending on class progress in each unit, a review **may** be offered before each exam. At that time, students can ask any **content** question that they would like. Students are not required to participate in the review, and can participate or leave as they choose. If there are no questions related to the **content** of the unit, the review session will be ended. Whether or not a review is conducted in class depends of class progress through the material for each unit **and** class participation in previous reviews. If there is no time to have a formal review or, if
review sessions are not being utilized, students will need to come to office hours to address any questions on class material.

UNIT EXAMS:
There will be 4 unit exams worth 50 points each. Unit exams will be in multiple choice format. Students are required to bring a ScanTron sheet in order to sit for the exam. Following handing out of exams and any announcements, you will have the remainder of the class period to complete unit examinations 1 – 3. Please return exams promptly when time is called. Students who give prior notification for a university excused absence will be allowed to complete an alternate version of the exam outside of class. Students who miss an exam for what would not be considered a university excused absence or who do not give prior notification of excused absences will not be allowed to take the exam at an alternate time. Exams one – three will be given during normal class times and exam four will be given during our final exam period.

EXAM/ASSIGNMENT PICKUP:
For privacy reason, students are not allowed to pick up exams or assignments for other students without my having prior written permission from the student who’s exam is being collected. If you have extenuating circumstances and wish to e-mail me permission prior to handing back materials, I will be more than happy to allow the person designated in your letter to pick up your work.

EXAM QUESTION RELIABILITY:
Following completion of the redemption/bonus process, I will run statistical reliability tests on every question, for each unit exam. If any questions is found to be unreliable in the top 33% of the class by grade, that question will be removed from grade calculation and students who missed that particular question will be credited for those points. Students who got the question correct will not be credited any additional points. Students who need to take an alternate version of the exam will not have their exam questions tested for reliability due to small sample size.

ARTICLE REVIEWS:
There will be 1 – 12 article reviews worth 5 points each. The number and content of reviews will depend on class progress throughout the semester. The article reviews will be related to practical application of exercise science principles that will be covered as part of the laboratory and lecture portion of the class. On days that article reviews are due, papers will be collected at the beginning of class. If an article review is turned in within the first 24 hours after it is due, the assignment will be graded as normal and then 1/3 of the earned points will be taken off of the grade as a late turn in penalty. If the assignment is turned in from 24 – 48 hours late, the article review will be graded as normal and then 2/3 of the earned points will be taken off for late turn in. Articles turned in more than 48 hours late will not be accepted and students will earn zero points. If there is a university excused absence, article reviews can be turned in at a time arranged between the student and the instructor, with prior approval. Late article reviews will not be accepted for full credit without prior approval from the instructor. Students are required to turn in a full text paper copy version of the article that they reviewed. Electronic article reviews or articles will not be accepted. All work will be subject to scrutiny by plagiarism detection software such as Turnitin or SafeAssign.

PREGRADING:
For any student who wishes, Mr. Andre or I will read his/her article review prior to the due date as long as it is 48 hours or more prior to when the paper is to be turned in (not the day before please!). At that time we will indicate a grade that it would earn in its current state. If the student is happy with that grade, they are allowed to submit the project in at that time which allows them to focus on work they may have for other courses. If they are not satisfied with the grade they earned in that draft, students are encouraged to make changes on the project in question and turn it in on the actual due date. Recommended format for article reviews can be found later in the syllabus.
SAMPLE QUESTION ASSIGNMENTS:
All students are required to submit 3 multiple choice questions with 5 choices (A – E) on each question for each of the four unit exams. Students must submit one simple recall, application, and analysis question per exam and the questions will be due on when the exam is taken. Questions will be graded according to their writing, strength, demonstration of knowledge of the material, and following of correct format as noted below with a maximum possible of 2 points per question or 6 points per exam. Your correct answer must be clearly indicated in order for points to be assigned. Please remember that one of the major purposes of this assignment is to demonstrate your knowledge of the material, your questions will be graded with that in mind.

Understanding Multiple Choice Questions

A well-constructed multiple-choice question can tap any level of knowledge and cognitive style as well as differentiate well-prepared from poorly-prepared test-takers.

Multiple choice questions require fine distinctions between correct and nearly-correct statements. These distinctions may involve thinking for synthesis, analysis, and application. Higher-order thinking questions sometimes make the content they cover unrecognizable. Besides not being fully prepared for these types of thinking questions, students often read the questions carelessly. Therefore, it is to your advantage to learn skills required to answer multiple choice items correctly.

Question Formats

Type A: Recall

Type A assesses basic knowledge. These questions are factual and simply require the knowledge of a piece of information.

Example:

1. What most frequently causes a tennis player to miss the ball completely?
   A. Swinging too early
   B. Swinging too late
   C. Not watching the ball
   D. Gripping the racket incorrectly

   Answer: C

Type B: Application

Type B questions are designed to test basic knowledge and to use it in context. These questions require application of information in a specific context. Such questions do not require the you to address the full complexity of real life situations, but they demand more than simple memorization of facts.

Example:

2. Billy, at age of two months, is very active and wriggles frequently. The findings of a study on the origins of temperamental or constitutional personality differences would predict that
   A. Billy will be very quiet and docile by age 5
   B. Billy will succeed in school
   C. Billy will very likely be active and unable to sit still for long as a small child
D. Billy will be neurotic

Answer: C

Key words are: "origins of temperamental or constitutional personality differences". This is an example of a question that seems to be a "trick" question. You know that it's going to be more difficult because you not only need to recall some definitions but you need to visualize how they can be applied in real life situations.

Example:

3. Which of the following concepts would explain why it is easier to maintain balance during a headstand than during a handstand?
   A. the height of the center of gravity is lower in the headstand than in the handstand
   B. the line of gravity is over the base of support in the headstand, and outside the base of support in the handstand
   C. the length of the moment arm is longer in the headstand than in the handstand
   D. the magnitude and direction of force are greater in the headstand than in the handstand
   E. the frictional forces are greater in the headstand than in the handstand

Answer: A

This question requires that you know what headstands and handstands are and that you can visualize the skills. Next you must apply the principles of stability by selecting the correct explanation from the responses.

Type C: Analysis

Type C questions require that the students analyze, synthesize, evaluate and make a decision. This type of question is based upon a hypothetical situation and asks you to use your knowledge in order to make judgments. These questions often involve a scenario and require integration of knowledge and decision making. Sometimes, you must decide the most appropriate steps to take, given a hypothetical case or situation.

Example:

4. A student suffers an injured ankle while running to first base in softball game. The teacher questions the student about how the injury occurred and about the area affected. The teacher examines the indicated area. The symptoms are typical of a sprained ankle, although the injury may in fact be more severe. Which of the following steps should be included in the first aid administered to the student?
   I. Elevate the injured leg
   II. Apply ice to the injured area
   III. Apply direct pressure to the site of the injury
   A. I only
   B. II only
   C. I and II only
   D. I and III only

Answer: C
EXAMINATION QUESTION COMPLEXITY

RECALL: requires only the identification, recall, or recognition of isolated bits of information (e.g., tasks, generalizations, concepts, principles, or procedures). The information generally does not vary relative to the situation. Examples of recall exam questions will ask for information that could directly be found in a manual, textbook, or other resource. Only memory is required; the questions simply ask “What is x?”

Example
When giving instructions on how to perform the seated wrist extension exercise, the personal trainer should instruct the client to position the palms of the hands facing
A. down.
B. up.
C. toward each other.
D. away from each other.

Example
Using the Karvonen formula, what is this client’s exercise heart rate if the personal trainer prescribes a training intensity of 55% of the client’s heart rate reserve?

(Note: the scenario associated with the question gave a resting heart rate of 80 bpm for the 40-year-old male client.)

A. 179 bpm
B. 157 bpm
C. 135 bpm
D. 99 bpm

APPLICATION: requires the comprehension, interpretation, or manipulation of limited concepts or data (e.g., numbers, methods) where the response or outcome varies relative to the situation, but not in an overly complex way (e.g., application of knowledge that changes based upon a client’s characteristics). Examples of application exam questions may include basic calculations (“applying” a formula), finding relationships between concepts, or “if-then” situations. Take notice of “dressed up” recall items that include extraneous information and calculations that deviate from the intent of the exam question.

Example
During a personal training session in a client’s home, the client’s 15-year-old daughter enters the exercise room, trips on the base of the client’s weight bench, falls, and is injured. All of the following parties may be legally responsible except the:

I. client’s daughter
II. personal trainer
III. client
IV. manufacturer of weight bench

A. I only
B. II and III only
C. I and IV only
D. I, III, and IV only

ANALYSIS: requires integration and/or synthesis of a variety of concepts or elements to solve or evaluate a specific problem (e.g., evaluating a complex situation in which many variables must be considered). Frequently, several steps will need to be completed before the correct answer can be determined. Examples of analysis exam questions include situations where data does not fit the typical pattern, complex calculations, or scenarios where complications prevent the answer from becoming a “typical response.” Remember that there are no “trick” questions, but an analysis question requires more careful reading and thinking that results in a longer time to answer.
POINTS POSSIBLE BREAKDOWN:
4 Unit Exams * 50 pts. each = 200 Points
4 Sets of sample questions * 6 pts./set = 24 Points
1 – 12 Article Reviews * 5 pts. each = 5 – 60 Points
• TOTAL POINTS POSSIBLE: = 229 – 284 Points

GRADING SCALE:
Student’s letter grade is based on the individual point score converted into a percentage grade. Based upon the student’s class performance the following letter grades will be assigned:

98 – 100 % = A+
93 – 97.99 % = A
90 – 92.99% = A-

87 – 89.99 % = B+
83 – 86.99 % = B
80 – 82.99 % = B-

77 – 79.99 % = C+
73 – 76.99 % = C
70 – 72.99 % = C-

60 – 69.99 % = D

< 60 % = F

GRADING CONCERNS:
Students who feel there is a grading error or who wish to gain greater knowledge as to why a particular grade was earned on a homework assignment have one week following the date exams or papers are handed back to the class to express their concerns. Following that one-week period, all grades are set and will not be altered. Students are encouraged to come and look at their grade on the final exam prior to submission of final grades via Patriot Web. After submission is complete, no grade alterations will be made so please come by during office hours of finals week if you have concerns.

NO STUDENT WILL BE THOUGH OF ANY DIFFERENTLY OR PUNISHED IN ANY WAY FOR BRINGING A POTENTIAL GRADE CONCERN TO MY ATTENTION. I want all students to walk away with an understanding of why you earned the grade that you did. In addition, I want to make sure that any potential mistakes in grading on my part are taken care of immediately. I encourage ALL students to take advantage of opportunities to discuss their grades with me throughout the semester.

Assumption of risk:
As with any activity there is an assumed risk while participating. We will do all we can to provide a safe environment; however, you are ultimately responsible for your well-being. The university will not be held liable for any injuries that occur.

Any student who has a documented medical condition, (e.g. Asthma, Hypertension, Cardiac Condition, etc.), or any injury that may preclude participation in a specific activity should inform the instructor immediately. Arrangements will be made with an alternate activity for your participation.
Final comments:
If a student does not understand an assignment, what is expected of him/her, or is having difficulty mastering the material/skills covered as a part of this class, I am available to help! I have an “open door” policy and students are always encouraged to call or e-mail me for an appointment, or to just come by my office at any time. I will be more than happy to assist any student whom is having difficulty and requests help, or who just wants to dig deeper into the class material. Additional student help can be found at: www.mhhe.com/powers6e. Please let me know if you are having any difficulty at all and do not wait until you are past the point of no return to seek help. Many students in the past could have had better grades had they come and talked with me earlier rather than later upon recognition that there was a problem. I can’t help you if I don’t know there is a problem!

The instructor reserves the right to make changes to the course syllabus and/or schedule at any time. Students will always be informed of any changes made.

Tentative course outline - Lecture:

Unit #1: The Bioenergetics of Work and Exercise
Topics:  1. Enzymatic energy systems
         2. Fuels for exercise
         3. Exercise recovery
         4. Adaptations and implications for training and performance

Unit #2: The Endocrine System in Exercise and Performance
Topics:  1. Basic structure and function of hormones and tissues
         2. Response of hormones to aerobic training
         3. Endocrine response to anaerobic training
         4. Implications for training
         5. The role of the endocrine system in substrate availability for work performance

Unit #3: The Role of the Neuromuscular System in Work and Exercise
Topics:  1. Nervous system
         2. Structure and function of skeletal muscle
         2. The cross-bridge cycle and power production
         3. Manipulating power
         4. Muscle soreness
         6. Adaptations to training

Unit #4: The Role of the Cardiovascular and Respiratory systems in Work and Exercise
Topics:  1. Respiration during exercise
         2. Acid-Base balance during exercise
         3. Circulatory adaptations to exercise
         4. Cardiac and smooth muscle physiology
         5. Factors controlling oxygen consumption
         6. Response to acute and chronic training
**Tentative schedule – Lecture:**

<table>
<thead>
<tr>
<th>Week 1 – Jan 18&lt;sup&gt;th&lt;/sup&gt;</th>
<th>Week 9 – Mar 15&lt;sup&gt;th&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td>Tues: Syllabus, course intro, and Bioenergetics</td>
<td>Tues: Neuromuscular</td>
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<tr>
<td>Thurs: Bioenergetics</td>
<td>Thurs: Neuromuscular</td>
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<tr>
<th>Week 2 – Jan 25&lt;sup&gt;th&lt;/sup&gt;</th>
<th>Week 10 – Mar 22&lt;sup&gt;nd&lt;/sup&gt;</th>
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<tr>
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<td>Tues: Neuromuscular</td>
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<td>Thurs: Bioenergetics</td>
<td>Thurs: Neuromuscular</td>
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<tr>
<th>Week 3 – Feb 1&lt;sup&gt;st&lt;/sup&gt;</th>
<th>Week 11 – Mar 29&lt;sup&gt;th&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>Tues: Bioenergetics</td>
<td>Tues: Neuromuscular</td>
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<tr>
<td>Thurs: Bioenergetics, and in-class review if time allows</td>
<td>Thurs: Neuromuscular, and in-class review if time allows</td>
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<tr>
<th>Week 4 – Feb 8&lt;sup&gt;th&lt;/sup&gt;</th>
<th>Week 12 – Apr 5&lt;sup&gt;th&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>Tues: <strong>Unit Exam 1</strong></td>
<td>Tues: <strong>Unit Exam 3</strong></td>
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<tr>
<td>Thurs: Endocrinology</td>
<td>Thurs: Respiratory and Cardiovascular</td>
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<tr>
<th>Week 5 – Feb 15&lt;sup&gt;th&lt;/sup&gt;</th>
<th>Week 13 – Apr 12&lt;sup&gt;th&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>Tues: Endocrinology</td>
<td>Tues: Respiratory and Cardiovascular</td>
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<td>Thurs: Respiratory and Cardiovascular</td>
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<tr>
<th>Week 6 – Feb 22&lt;sup&gt;nd&lt;/sup&gt;</th>
<th>Week 14 – Apr 19&lt;sup&gt;th&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>Tues: Endocrinology</td>
<td>Tues: Respiratory and Cardiovascular</td>
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<tr>
<td>Thurs: Endocrinology</td>
<td>Thurs: Respiratory and Cardiovascular</td>
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<tr>
<th>Week 7 – Mar 1&lt;sup&gt;st&lt;/sup&gt;</th>
<th>Week 15 – Apr 26&lt;sup&gt;th&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>Tues: Endocrinology, and in-class review if time allows</td>
<td>Tues: Respiratory and Cardiovascular</td>
</tr>
<tr>
<td>Thurs: <strong>Unit Exam 2</strong></td>
<td>Thurs: Respiratory and Cardiovascular, and in-class review if time allows</td>
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<tr>
<th>Week 8 – Mar 8&lt;sup&gt;th&lt;/sup&gt;</th>
<th>* Unit exam 4:</th>
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<tbody>
<tr>
<td>Tues: NO CLASS - Spring Break</td>
<td>Section 001: May 11&lt;sup&gt;th&lt;/sup&gt; from 7:30 - 10:15 AM</td>
</tr>
<tr>
<td>Thurs: NO CLASS - Spring Break</td>
<td>Section 002: May 6&lt;sup&gt;th&lt;/sup&gt; from 1:30 - 4:15 PM</td>
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**Important Dates from the University Academic Calendar**

Dates listed on this page are for full semester courses only. For add/drop deadlines for courses that meet less than a full semester, see [Non-standard Sections Dates](#). *Please note that the academic calendar may change on the Mason website. The calendar provided here is done for your convenience but should not be considered the “official” university academic calendar. Changes which are made at the university level to the academic calendar will not be reflected here so please consult the official calendar if you have any questions.

<table>
<thead>
<tr>
<th>January 1 Day of Week</th>
<th>Friday</th>
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<tbody>
<tr>
<td>Martin Luther King Day (no classes)</td>
<td>Mon Jan 18</td>
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<tr>
<td><strong>First day of classes; last day to submit Domicile Reclassification Application; Payment Due Date</strong></td>
<td>Tues Jan 19</td>
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<tr>
<td>Last day to drop with no tuition penalty</td>
<td>Tues Feb 2</td>
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<tr>
<td><strong>Last day to add classes—all individualized section forms due</strong></td>
<td>Tues Feb 2</td>
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<tr>
<td>Last day to drop with a 33% tuition penalty</td>
<td>Feb 9</td>
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<tr>
<td>Last day to drop with a 67% tuition penalty</td>
<td>Feb 19</td>
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<tr>
<td><strong>Last day to drop</strong></td>
<td>Fri Feb 19</td>
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<tr>
<td>Immunization Record Deadline</td>
<td>Mon March 1</td>
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<tr>
<td>Midterm progress reporting period (100-200 level classes)—grades available via <a href="#">Patriot Web</a></td>
<td>Mon Feb 15 - Fri Mar 19</td>
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<tr>
<td>Selective Withdrawal Period (undergraduate students only)</td>
<td>Mon Feb 22 - Fri Mar 26</td>
</tr>
<tr>
<td>Spring Break (Saturday classes meet Mar 6)</td>
<td>Mon Mar 8 - Sun Mar 14</td>
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<tr>
<td><strong>Incomplete work from fall 2009 due to instructor</strong></td>
<td>Mar 26</td>
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<tr>
<td><strong>Incomplete grade changes from fall 2009 due to registrar</strong></td>
<td>Apr 2</td>
</tr>
<tr>
<td>Dissertation/Thesis Deadline</td>
<td>Fri Apr 30</td>
</tr>
<tr>
<td>Last day of classes</td>
<td>Mon May 3</td>
</tr>
<tr>
<td><strong>Reading Days</strong></td>
<td>Tue May 4</td>
</tr>
<tr>
<td><strong>Exam Period</strong> (beginning at 7:30 a.m. on Wednesday, May 5)</td>
<td>Wed May 5 - Wed May 12</td>
</tr>
<tr>
<td>Degree Conferral Date</td>
<td>May 15, 2010</td>
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ARTICLE REVIEWS – Sample Format

- **Intro**
  - Definition of any important terms
  - Highlight the author’s review of literature and the identification for the need for this particular research
  - What was the purpose of this work, was it justified in your opinion? Why or why not?
  - What was the hypothesis?

- **Methods**
  - Subject Data/Demographics
  - Description of protocols used – Reference and explain what the tests are design to investigate
  - Equipment Needed, detailed description of type, manufacturer, and location
  - Any Statistical tests performed (If Needed) – explain why individual statistical treatments were chosen, what those tests are designed to accomplish, and whether or not they met the assumptions required to perform the test.
  - Were the methods appropriate? Why or why not? – Does the overall study design allow the investigator to actually measure the phenomenon they are trying to test? Explain in detail.

- **Results**
  - Summary and/or table/graphic representation of the results reported by the author(s)

- **Discussion**
  - What was the authors’ interpretation of their findings? Do you agree, why or why not?
  - Did they match the original hypothesis?
  - Relate back to important points highlighted in the introduction
  - Do the results obtained by the author(s) match what is found in the body of literature prior to this study being performed?

- **Conclusion**
  - What is the take home message, summarize the most important findings and tell why they are important.
  - What do these results mean to YOU? How can you use them in your profession?
  - What are some future directions related to this topic that should be researched?

✓ Hints for success on Article reviews:
  - Reference everything as needed (APA format)
  - Always state units of measurement
  - Use SI units
  - Related conclusions from authors as well as your own personal conclusions back to the theory learned in the lecture as well as the broader theme of what was presented in the lab related to this material.
  - Double space and use times’ new roman 12 pt. font.
  - Label all graphs and tables clearly
    - References/sources MUST be either a recent (within the past 5 years) peer-reviewed journal article of original research. No text books or review articles, though those can be very helpful in finding articles of interest.
    - Websites, popular media, or opinion type articles are NOT acceptable sources – you can, however use those sources to track down their references for use in your own report/project
    - If you have any questions about the sources you are planning on using feel free to check with me or Mr. Andre ahead of time and I will be more than happy to give you some feedback or steer you in the right direction.
- All students are held to the standards of the George Mason University Honor Code [See http://www.gmu.edu/catalog/apolicies/#Anchor12]

- University policy states that all sound emitting devices shall be turned off during class unless otherwise authorized by the professor.

- Students with disabilities who seek accommodations in a course must be registered with the Disability Resource Center (DRC) and inform the instructor, in writing, at the beginning of the semester [See www.gmu.edu/student/drc]

- For additional School of Recreation, Health, and Tourism information, please visit the website at http://rht.gmu.edu