PELLISSIPPI STATE COMMUNITY COLLEGE
MASTER SYLLABUS

HUMAN ANATOMY & PHYSIOLOGY I
BIOL 2010

Class Hours: 3.0  Credit Hours: 4.0
Laboratory Hours: 3.0  Revised: Spring 2016

Catalog Course Description:

A study of basic biological chemistry, cellular structure and function (including cellular respiration, protein synthesis, and cell division); histology; and integumentary, skeletal, and nervous systems. Course includes three hours of lecture and three hours of laboratory applications each week.

Entry Level Standards:

Eligible for enrollment in ENGL 1010 and MATH 1530.

Prerequisites:

None

Textbook(s) and Other Course Materials:

ISBN for Bundle: 10-0133942295; ~313.00
ISBN and approximate cost for separate components:
Textbook: 10-0321918940, ~$279.00 (w/e-text); ~265.00 (w/out e-text)
Applications Manual: 10-032197400X, ~$27.00
Atlas: 10-080537373X, ~$27
Getting Ready for A&P: 10-0321815688, ~$25.00
Student Worksheets: 10-0321980735, ~$20.00
Mastering A&P Access: 10-0321963431, ~$66.00 (w/out e-text)


I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Chapter</th>
<th>Lab Exercises</th>
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<tbody>
<tr>
<td>1</td>
<td>Chemistry of Life: Organic Cells and Cell Division</td>
<td>2, 3</td>
<td>Lab Orientation/Safety (1)</td>
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<td>Body Language (2)</td>
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<td>Microscope (3) Cells (4)</td>
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<tr>
<td>2</td>
<td>Cell Metabolism Review Chapters 2-3, 23</td>
<td>23 (parts) 2, 3, 23</td>
<td>Tissues and Membranes (6)</td>
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<tr>
<td>3</td>
<td>Test 1 (Chapters 2-3, 23) Homeostasis</td>
<td>2-3, 23</td>
<td>Lab Practical 1 (1-6)</td>
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<tr>
<td>Tissues &amp; Membranes</td>
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<tr>
<td>The Skin and Integument</td>
<td>5</td>
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<tr>
<td>Bones/Skeletal Tissue</td>
<td>6</td>
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<tr>
<td>Integumentary (7)</td>
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<tr>
<td>the Skeletal System. (8-9)</td>
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<tr>
<td><strong>Test 2 (Chapters 1,4, 5)</strong></td>
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<tr>
<td>Bones/Skeletal Tissue</td>
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<tr>
<td>The Skeletal System. (8-9)</td>
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<tr>
<td><strong>Test 3 (Chapters 6-8)</strong></td>
<td>6-8</td>
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<tr>
<td>The Muscular System</td>
<td>9</td>
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<tr>
<td><strong>Lab Practical 2 (7-11)</strong></td>
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<tr>
<td>Muscle Tissues</td>
<td>9</td>
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<tr>
<td>Muscle Histology (12)</td>
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<tr>
<td>Gross Muscle Anatomy (13-14)</td>
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<td>Muscle Tissues</td>
<td>9</td>
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<tr>
<td>Nervous System Tissues</td>
<td>10</td>
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<tr>
<td>Gross Muscle Anatomy (12-14)</td>
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<tr>
<td>Review Muscles</td>
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<tr>
<td><strong>Test 4 (Chapters 9-10)</strong></td>
<td>9, 10</td>
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<tr>
<td>Nervous System Tissues (cont’d)</td>
<td>11</td>
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<tr>
<td>Brain and Cranial Nerves</td>
<td>13 (1st half)</td>
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<tr>
<td><strong>Lab Practical 3 (12-14)</strong></td>
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<tr>
<td>Brain and Cranial Nerves (cont’d)</td>
<td>13 (1st half)</td>
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<tr>
<td>Spinal Cord and Nerves</td>
<td>12</td>
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<td>Nervous Tissues (15)</td>
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<td>Gross Anatomy of the Nervous System and Reflexes (16,17)</td>
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<td>Spinal Cord and Nerves (cont’d)</td>
<td>12</td>
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<tr>
<td>Sensory Basics</td>
<td>13 (2nd half)</td>
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<td>The Senses (18-19)</td>
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<tr>
<td>Review for LP-4 (15-19)</td>
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<tr>
<td><strong>Test 5 (Chapters 11-13)</strong></td>
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<tr>
<td>Special Senses</td>
<td>15</td>
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<tr>
<td>Autonomic Nervous System</td>
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<td><strong>Lab Practical 4 (15-19)</strong></td>
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<td><strong>Test 6 (Chapters 13-15, plus review questions)</strong></td>
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<td><strong>Final Exam Period</strong></td>
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II. **Course Goals**:  

The course will:

- **A.** Know the anatomical terminology used in describing the whole body and selected organ systems. (V.3)*
- **B.** Understand the process of homeostasis. (V.4)
- **C.** Understand the relationships between cells, tissues, organs, systems and the organism. (V.4, V.5)
- **D.** Understand the basic chemistry of the cell and the human body. (V.3)
- **E.** Know the structure and function of cellular components. (V.4)
- **F.** Understand the function of DNA and RNA in cellular processes. (V.4)
G. Know the anatomy (micro- and macro-) and understand the physiology of the following systems: (V.3, V.4, V.5)
   1. Integumentary
   2. Skeletal
   3. Muscular
   4. Nervous

H. Demonstrate effective, safe and ethical laboratory procedures. (V.1)

I. Use scientific methods to conduct an experiment, analyze anatomical specimens and perform physiological tests. (V.1, V.2)

J. Apply the principles of anatomy and physiology to case study situations. (V.4, V.5)

K. Use medical resources to aid in the analysis of medical data and determination of a diagnosis and treatment of some health problems. (V2, V3, V4)

L. Function as member of a learning team. (V2, V3, V4)

*Roman numerals after course objectives reference TBRs general education goals.

III. Expected Student Learning Outcomes*:

Students will be able to:

1. Use correct terminology and correct spelling to describe the human body in terms of regions, planes, sections, directional relationships, tissues, organs and systems. (A)*

2. Explain the chemical composition of cells and the human body including their elemental, inorganic and organic components. (C, D)

3. Describe the anatomy and physiology of human cells. (C, D, E, F)

4. Describe the tissue level of anatomical organization and be able to identify and classify tissues. (C, G)

5. Explain homeostasis and its significance to normal body functions and be able to identify the components of a homeostatic control system. (B, C)

6. Identify the anatomical components studied and explain the physiological mechanisms described in the following systems. Use correct terminology and spelling in the identification of all structures and functions. (B, G, H, I, J)
   a. Integumentary System
   b. Skeletal System
   c. Muscular System
   d. Nervous System
   e. Special Senses

7. Demonstrate proper use of the microscope in the study of human cells and tissues. (E, H)

8. Demonstrate safe and ethical laboratory procedures including the human cadaver. (H)

9. Evaluate laboratory data, develop and test hypotheses and write a coherent lab report that summarizes findings. (I, G).

10. Analyze case study situations and consult appropriate medical references in order to develop a diagnosis and treatment recommendation for conditions related to the systems
studied. (G, J, K)

11. Function as an effective team member by participating in small group discussions and contributing to the completion of group assignments and projects (L).

*Capital letters after Expected Student Outcomes reference the course goals listed above.

IV. Evaluation:

A. Testing Procedures:

The lecture portion of this course contains 825 points (75% of the total grade).

Unit Tests: Each lecture unit will be evaluated using a 100 pt written test for a total of 600 pts. Unit tests will be a mix of multiple choice, short answer, listing and 1 or 2 essay questions. Some tests may contain diagrams for the student to draw and/or label. Lecture tests that are missed for a valid reason may be made up at the discretion of the instructor. Students must notify their instructor as to the reason for missing a test on the day the test is missed or as soon as possible. Failure to do this will make the reason invalid. Make-up tests must be taken within a week of the original test date and will be of a different nature and will generally be harder than the regular tests. Lecture tests missed without a valid excuse will be given a score of Zero.

Student Engagement Activities: In order to encourage student engagement with the course materials, each instructor will create various learning activities. These may include: pre-lecture assignments (quizzes, on-line activities, homework), in class participation (response systems, discussion points, presentations), critical thinking activities (case studies, journal reviews) and comprehensive assignments. Instructors will specify these activities, point values and due dates within their specific course syllabi.

B. Laboratory Expectations:

The Laboratory portion of the grade covers a total of 275 points for determining letter grade, but a student must pass the lab with a 60% average in order to pass the course. If a student earns less than 60% in lab, they will fail the entire course.

Lab Practicals: Each laboratory unit will be evaluated using a Lab Practical worth 50 points. Lab Practicals will consist of short answer questions that require identification of structures and processes explored during lab exercises. Each lab practical will cover material for that unit and up to 10 points worth of comprehensive material.

If a student must miss a lab practical due to circumstances beyond their control, they may be able to take a make-up LP. A student must notify their regular lab instructor prior to or on the day of their absence, provide a sufficient reason for their absence and request a make-up. Most commonly, the make-up will be given during another regular lab session, but must be completed within 1 week of the original test date. Students unable to complete lab practicals within a reasonable amount of time, who are other-wise passing the course, may receive an incomplete for the semester.

Weekly Lab Preparation Grades: There will be weekly pre-lab activities within the lab manual which will be spot checked for a total of 35 points and weekly quizzes and/or homework worth a total of 40 points. Quizzes and homework will consist of short answer/identification questions and may cover new or review material. Lab instructors reserve the right to use lab manual checks as quiz grades and quiz grades in lieu of lab manual checks. Instructors will conduct sufficient lab manual checks and quizzes so that the lowest several grades can be dropped.
Lab Attendance: Students are to attend the lab that they are registered for. In emergency circumstances, students may attend a different lab section as a make-up. This privilege requires the student to notify both lab instructors involved by e-mail prior to attending a different lab, or as soon as practical. Students attending make-up labs may not receive credit for lab quizzes or homework turned in to the make-up instructor. The lowest several quiz grades are dropped, so this should not affect the overall grade.

C. Field Work:

N/A

D. Other Evaluation Methods:

Other evaluation methods may be arranged at the instructor’s discretion.

E. Grading Scale:

Point Distribution: 1100 points Total Possible

<table>
<thead>
<tr>
<th>Lecture Portion:</th>
<th>Laboratory Portion:</th>
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<tbody>
<tr>
<td>Test 1: 100pts</td>
<td>Lab Practical 1: 50pts</td>
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<tr>
<td>Test 2: 100pts</td>
<td>Lab Practical 2: 50pts</td>
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<tr>
<td>Test 3: 100pts</td>
<td>Lab Practical 3: 50pts</td>
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<tr>
<td>Test 4: 100pts</td>
<td>Lab Practical 4: 50pts</td>
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<tr>
<td>Test 5: 100pts</td>
<td>Lab Manual/Pre-lab 35pts</td>
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<tr>
<td>Test 6: 100pts</td>
<td>Weekly Quizzes 40pts</td>
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<tr>
<td>Student Engagement 225pts</td>
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<tr>
<td>Activities</td>
<td>275pts</td>
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Sub Total: 825pts

Letter Grades will be determined as follows:

A 90% and above 990 or more points
B+ 87-89% 957-989 points
B 80-88% 880-956
C+ 77-79% 847-879
C 70-77% 770-846
D 60-69% 660-769
F 59% and below 659 or fewer points

NOTES: A student must attain at least 165pts (60%) in lab in order to pass the course. Incomplete grades are possible for students missing a few specific assignments due to circumstances beyond their control. Students must request an incomplete grade in writing (e-mail is acceptable), and must be passing the course. Students missing more than 25% of the assignments are not eligible for incompletes.

V. Policies:

A. Attendance Policy:

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic Affairs, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the
vice president of Academic Affairs.

B. Academic and Classroom Misconduct:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one’s own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

Please see the Pellissippi State Policies and Procedures Manual, Policy 04:02:00 Academic/Classroom Conduct and Disciplinary Sanctions for the complete policy.

C. Accommodations for disabilities:

Students that need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Disability Services (DS) in order to receive accommodations in this course. Disability Services may be contacted by sending email to disabilityservices@pstcc.edu, or by visiting Alexander 130. More information is available at http://www.pstcc.edu/sswd/.

D. Other Policies:

Course essentials related to students with disabilities. The course objectives include the requirement that students use correct terminology, to include correct spelling, when demonstrating that they recognize body structures and their functions. This course lays the foundational framework for further understanding of the body in various health-related disciplines such as Nursing and Radiology Technology. Essential to this understanding is the ability to quickly recognize structures and be able to correctly spell the names of those structures on patient records. As part of the test of this essential objective, lab practicals involve timed stations (90 seconds each) where students must recognize a structure, identify it and record that identity with correct spelling within the allotted time.

Thus, spelling and timely answers are essential learning objectives and are not subject to accommodation. However, after the timed portion of a lab practical, we allow all students about 10 minutes to spot check their answers. For this untimed portion, students with disabilities will be allowed extra time for their spot checking. This extra time will result in their total lab practical time being equivalent to what is stated on their accommodation plan.

Lecture tests have the same spelling requirements, but since individual questions are not timed, extra time will be allotted per the student accommodation plan.
Out of class assignments listed on the syllabus at the beginning of the semester have firm due dates because they are accessible on the first day of classes. These assignments are designed to complement the information covered in assigned chapters for that week and therefore it is in the student’s best interest to complete the assignments by the due date given at the beginning of the semester. Time extensions beyond the week the assignment is due will not be made. Students should begin working on these assignments immediately, create a plan and timeline to meet their individual learning needs for assignment completion and manage their time appropriately throughout the semester so that deadlines for these assignments are met. This applies, but is not limited to, case studies, chapter quizzes, on-line learning activities or other assignments which are assigned and accessible at the beginning of the semester.

**Missed Assignments:**
Lecture tests that are missed for a valid reason may be made up at the discretion of the instructor. Students must notify their instructor as to the reason for missing a test on the day the test is missed or as soon as possible. Failure to do this will make the reason invalid. Make-up tests must be taken within a week of the original test date and will be of a different nature and will generally be harder than the regular tests. Lecture tests missed without a valid excuse will be given a score of Zero.

**If a student must miss a lab practical due to circumstances beyond their control, they may be able to take a make-up LP.** A student must notify their regular lab instructor prior to or on the day of their absence, provide a sufficient reason for their absence and request a make-up. Most commonly, the make-up will be given during another regular lab session, but must be completed within 1 week of the original test date. Alternate Lab Practical may be given in the testing center for students with a valid excuse for their absence. Students unable to complete lab practicals within a reasonable amount of time, who are other-wise passing the course, may receive an incomplete for the semester. Missed vocabulary quizzes and case studies are given a zero. The lowest 5 or 6 grades in each category are dropped, so missed items become one of the lowest grades and are dropped.

**Laboratory Activities:**
Students are expected to arrive at lab fully prepared to participate in all activities. This requires that, as a minimum, you have read the appropriate lab exercise and reviewed the lab activity guides for that week.

Students should dress appropriately for the lab to minimize the possibility of spreading contamination and the risk of personal injury. Garments that cover the legs are recommended and open toed/open heeled shoes are not allowed. Students must report to their instructor any injuries sustained during lab exercises.

Drinks, food, chewing gum, and tobacco use are not allowed in the lab or classroom. Visitors are not allowed in the lab or classroom.

**Student Participation in Dissections.** Dissections are an integral part of BIOL 2010 and are therefore mandatory. This will include a dissection/observation of a human cadaver. All students enrolled in the course are expected to fully participate. However, in consideration of medical, religious and/or moral objections of isolated individuals, students wishing to be excused from the actual dissection may petition for a waiver by submitting a written request to the lead instructor. Students that are pregnant should consult their physician regarding their participation in dissection labs. With proper documentation, waivers may be granted and alternate activities may be arranged. Students granted waivers will only be excused from the physical dissection itself. They will still attend labs and be responsible for all material presented in lab. All students are required to take the laboratory practicals which will include material from the dissections.
**Academic and Classroom Conduct and Etiquette**

2. Students in BIOL 2010 are expected to behave in a professional and adult manner at all times. Offensive statements regarding one’s race, religion, creed, national origin, physical disability or mental disability are not appropriate and will not be tolerated. Inappropriate language, behavior or dress will not be tolerated. Students disrupting classes or labs will be asked to leave and will be counted absent for that day.
3. All cell phones or personal electronic devices must be turned off during class unless they are being used for instructor directed activities.
4. Students should be in their seats and ready to learn at the start of class time. Tardy students should not walk between the instructor and the class, but need to find the first available seat. Students should not disturb class by putting away materials or leaving the class prior to class ending.
5. Students are expected to do their own work. With any form of valid proof of dishonesty with regard to student work or testing, the instructor may elect from a range of actions from giving a zero on that particular assignment to failure of the entire course.
6. Plagiarism includes any form of using another person’s ideas without giving them credit. Students must cite all references for answers all of their assignment. The instructor will provide access to resources on how to properly cite references.

**Students with Medical Conditions:**

Please inform the instructor of any medical condition which may render you unable to attend or perform normally in the classroom. These medical conditions include, but are not limited to Diabetes, Epilepsy, Asthma, etc. In the event of a medical emergency, it is helpful if the instructor already has some knowledge of your condition so as to best assist you.

**On-line Course Enhancement.**

1. This lecture course is enhanced with on-line material available through the On-line courses link on the PSTCC home page. Your instructor will provide instructions for accessing this material on the first day of class.
2. Information available on-line will include: Class Notes, Test Review Sheets, Vocabulary Quizzes, Case Studies, On-line Tests, Lab Activity Guides, and links to useful sites related to A&P.
3. The college provides ample computer access for students that don’t own their own computer. Therefore, students are expected to be able to access course material on a regular basis and are responsible for assignments posted there.

**Un-planned College Closure:**

In the event of inclement weather or other unforeseen events, the school may have to close. The school’s policy (see [http://www.pstcc.edu/weather.html](http://www.pstcc.edu/weather.html)) is to try to remain open as long as safely possible. PSCC’s decision to close or remain open is independent of other schools. Therefore, the closing of Knox County Schools does not automatically mean the closing of PSCC. The Inclement weather policy also includes these statements:

“Sometimes, weather will delay the opening of school, but not close the College. In those instances, there may be an announcement such as “Open one hour late” or “Open at 9 a.m.” on the radio or TV. The terminology means the same thing. “One hour late” means one hour after the standard workday begins at 8 a.m. For faculty and students, that means classes beginning before 9 a.m. are canceled, while classes beginning at 9 a.m. or later meet at their usual time.”

**Lab and other science courses that meet for more than 2 hours have an exception to the general school policy.** Labs and lectures that would have been ‘in-session’ will meet for whatever time remains of their original schedule. For example, if a BIOL 2010 lab was
scheduled from 8:35 to 11:30 and the school opened 2 hours late (10:00 AM), then that lab section would meet from 10:00 AM until 11:30 AM.

Students should try to attend all classes and labs whenever the school is open. If the weather makes it unsafe to travel to school, then the student is responsible for notifying their instructor as soon as practical. Students missing labs or lectures are still responsible for material covered in their absence.

In the event that a class meeting (lab or lecture) is cancelled due to any unforeseen event, students should continue to follow their syllabus and read, study, and complete assignments as if their classes were still meeting. College students should be able to learn a significant portion of the material on their own. Each course and/or section instructor may, at his or her discretion, choose to adjust assignment due dates and/or test schedules because of missed classes. These changes will be announced as soon as practical, generally by posting a notice on the course on-line site. If the college is closed for an extended period of time, the instructor will make adjustments to course requirements as needed and will post those changes on-line. These changes may include: placing certain tests on-line, combining lab activities, canceling certain course requirements or creating alternate assignments (including the use of on-line lab activities).