Syllabus - General Physics I – PHYS 2414 – Spring 2016

Instructor:

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Office Hours:

Monday, Wednesday, Friday: 1:30 PM – 4:00 PM*
Tuesday & Thursday: 11:00 AM – 12:30 PM**
Please check the schedule on the corkboard outside my office for changes in this schedule
* The afternoon office hours may often be pre-empted by faculty meetings. On those days, I will check my email later in the afternoon.
** On Tuesdays & Thursdays, you may be asked to help me setup/takedown labs while we talk.

Course Description: A calculus based introduction to models of physical phenomena including conservation of energy, three-phase matter, mechanical energies, oscillations, particle models of matter, bond energy, and thermal energy, thermodynamics, ideal gas, Galilean space-time, momentum conservation, angular momentum conservation, Newtonian mechanics. Emphasis will be placed on conceptual analysis, problem solving, graphical interpretation, and communication. A laboratory component is included. **Prerequisite**: MATH 2305 or equivalent (Calculus I).

This course is required for content preparation in Middle Grades Education Program and prepares teacher candidates with the knowledge base for science required in the Kentucky Core Academic Standards and the College Career Readiness Standards. The Conceptual Framework for the Education Program, "Teacher as Leader for the 21st Century", is incorporated. The Division of Natural and Behavioral Science works with the Education Program in preparing the teacher candidates with the knowledge base required to meet Kentucky Teacher Standard I and the Education Program Student Learning Outcome for Content Knowledge. Teacher candidates will be equipped to teach middle grade students and meet requirements for Unbridled Learning.

Text: Study material will be provided in class. However, if you would like additional sources of information, the following are recommended:
Halliday, Resnick et al, *Fundamentals of Physics.*

Materials: Scientific calculator (e.g. TI-30Xa – Note: you may not use your cell phone), clear plastic ruler with centimeters, clear plastic protractor. Many students prefer a three-ring notebook to collect the printed handouts.

Additional Sources Of Assistance:

Mathematics Center (Fugitte 129 – call x7302) – Free Tutoring!
Academic Success Center (Weldon Hall – call x8477) – When in doubt, start here!
Writing Center (Slider 200 – call x8209) – not just writing, better communication!
Wikipedia – They do a pretty good job of describing physics concepts.
Murrell Library – The internet is good, the librarians are better. Plus, they know more about the internet than any of us could ever hope to know.

AND

Talk with each other

Collaboration:

The best way to learn is to collaborate with the other students in the class. Thus, I encourage you to work together in class, during laboratory activities, and with homework assignments. Ask each other questions. Challenge each other to make statements clear, logical, and concise. Try to eliminate the use of jargon when discussing physical phenomena. The more you are able to use day-to-day language to clearly express your understanding, the stronger you will develop this understanding. ***You are all in this together – If you work together and help each other out, it will make the course much more enjoyable for you.***

Note: This syllabus is subject to change during the semester

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Learning Objectives: During this course, you will develop an understanding of the universe around you and in what way objects interact. You will sharpen your observational skills and your ability to process this information analytically. Finally, you will improve your ability to communicate your analysis and understanding in a concise and logical manner using verbiage and/or graphics. To this end, the course has the following learning objectives:
The student will be able to accurately predict and clearly communicate the logic behind this prediction for the following:
– Energy transfers (type and quantity of transfer) for energy interactions.
– Certain state properties (e.g. temperature, pressure, internal energy, enthalpy, etc.) of a substance (or substances) when given details of an interaction.
– Mechanical properties of an object (e.g. height, velocity, displacement, etc.) of a body (or bodies) when given details of an interaction.

Additionally, students in this course will develop their capacity for critical inquiry, as per the LWC ESLO for Inquiry and Analysis. This will be demonstrated by the students' responses on all assessments (quizzes, exams, and final).

Please re-read the section on collaboration from the previous page:
I am asked each year what is the best way to study for this class. My recommendation is to get one or more study-buddies. Review the activities from the class with each other. Practice stating the results and the logic behind each conclusion. Try to avoid using pronouns. (You will often hear me say "Pronoun foul!" in class when I hear someone avoid using proper descriptions.) When you are the listener for your study-buddy, be just as judicious at pointing out anytime the speaker is getting vague about the description. Force each other to put these conceptual ideas into words. When you are trying to verbalize a concept and are having difficulty, it indicates that you have a weakness in your own understanding. This is your opportunity to strengthen your knowledge. Odds are that any weakness that you have in your understanding will show up during the next quiz or exam.

Course Format: We will meet twice each week (Tues & Thurs 12:30 PM – 3:30 PM) in a "Discussion/Laboratory," or DL for short. This is a combination of lab activities (predictions, experiments, and observations) and discussions within small groups (SG) or the whole class (WC). I will rarely lecture. Instead, I will ask questions and guide the discussion for you to develop your own understanding of physical phenomena based on your observations. This process is designed for you to have the opportunity to keep your mind active in the presence of new ideas. Research has demonstrated that an active mind is better able to process and analyze new information than a passive mind (which is the nature of the mind during a lecture). When you encounter new ideas, often they will be in conflict with your previous understanding. It is important to try to recognize this conflict, bring it to the forefront of your mind and rectify the conflict. When your brain is active by discussions and activities, you are more likely to recognize these conflicts. I encourage you to bring it up for discussion, so we can collaboratively address the issue. I will try to give you as much opportunity as possible.

Assessments: All the tests will include problem solving but will ***emphasize qualitative reasoning***. Thus, you will need to spend a significant amount of time thinking about the concepts that we will cover in this course. I encourage you to ask "what if…" questions in order to better understand the concepts. You will be asked to describe phenomena, make predictions, and use scientific models to new situations. Memorization is highly discouraged (in fact, it will often lead you to an incorrect response on a test). Necessary equations and constant values will be provided on the test. Additionally, you may bring your own 3" x 5" note card.

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Academic Integrity: You will be required to sign the following pledge with each test: "*On my honor as a student, I have neither given nor received any unauthorized aid on this exam.*" Failure to sign this pledge will result in zero for the test. Any suspected cheating will be turned over to the Academic Affairs Office.

Disabilities Policy: If you have any learning or physical disabilities, contact the instructor during office hours ASAP to set up necessary accommodations.

Statement on Learning/Physical Disabilities:
Lindsey Wilson College accepts students with learning disabilities and provides reasonable accommodation to help them be successful. Depending on the nature of the disability, some students may need to take a lighter course load and may need more than four years to graduate. Other accommodations may be available on a case-by-case basis. Students needing accommodation should apply as early as possible, usually before May 15. Immediately after acceptance, students need to identify and document the nature of their disabilities. It is the responsibility of the student to provide to the College appropriate materials documenting the learning disability, usually a recent high school Individualized Education Program (IEP) and results from testing done by a psychologist, psychiatrist, or qualified, licensed person. The College does not provide assessment services for students who may be learning disabled. Although LWC provides limited personal counseling for all students, the College does not have structured programs available for students with emotional or behavioral disabilities. For more information, call Mr. Ben Martin at 270-384-7479.

Cell Phone Policy: Cell phones, pagers, and other communications devices are prohibited during class. Unauthorized use of any communication device during class will result in forfeiture of cell phone for one week for first offense. Additional offenses will result in longer penalties. Also, unauthorized use of communication devices is implicit voluntary waiver of any and all privacy rights for the communication device.
Exceptions: Contact the instructor ahead of time if you are awaiting an emergency call (e.g., if you have children in daycare).

Drop Policy: Students who wish to drop this course must complete an Add/Drop Form. This includes signatures from the instructor and the advisor. The completed form must be submitted to the registrar's office. There are no automatic drops. If you fail (or forget) to submit the completed Add/Drop Form, you will receive an "F" for the course. Obtain the Add/Drop Form from the Registrar's Office or Academic Advisor.
The last day to drop this class is Monday, April 11.

Make-Up Policy: There are no make-ups for quizzes & exams. If you miss a test, that will be the one you will drop. If you are an inter-scholastic athlete that must miss a class for an event, contact your coach so that s/he can provide a proctor for you to take tests while you are traveling.

Quiz Policy: Each Tuesday (except "Exam Days"), there will be a quiz ***based on homework, textbook examples, lectures, & laboratory activities.*** No make-up quizzes will be given. You have the option to drop your lowest two quiz scores or, equivalently, miss up to two quizzes during the semester.

Exam Policy: Three exams will be held on Tuesday during the semester. The dates are yet to be determined. No make-up exams will be given. You have the option to drop your lowest exam score or, equivalently, miss one exam during the semester.

Final Policy: Final will be held on Tuesday, 5/10, at 2:00 PM to 4:30 PM. No make-up final will be given. You must take the final during this time.

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Grade Scale: Grades will based on a 10 point scale as follows (Note: There is no curve).

A	B	C	D	F
> 8.99	> 7.99	>6.99	> 5.99	5.99 or lower

Evaluation: (Absence penalties will be assessed after the following calculation:

Exams (one will be dropped) (No make-ups)	= 30%
Quizzes (two will be dropped) (No make-ups)	= 30%
Final Exam (No make-up)	= 40%
Total	= 100%

Alternate Calculation: If you do better on the final than on the other tests:

Exams (one will be dropped) (No make-ups)	= 15%
Quizzes (two will be dropped) (No make-ups)	= 15%
Final Exam (No make-up)	= 70%
Total	= 100%

Extra Credit: Each of the following will raise your grade for the exam by $1/3^{rd}$ point:

Task	Description
Redo each exam	Provide "A" level responses (in your own words) to each question of the exam for which you did not score 9.0 or better.

Note on Curving: The grade for this course is not curved. Therefore, you are not competing with the other students in the class. Please work together as much as possible (except on tests!). Every time you help out your fellow student, you will learn the material a bit better yourself.

Attendance Policy: The learning occurs during the class and through collaboration with your fellow students. Thus, you must attend the classes and laboratories regularly. I do not differentiate between "excused" and "un-excused" absences. If you miss more than three classes (DL's), your ***course grade*** will be reduced by $1/3^{rd}$ grade for each additional absence. If you have conflicts with the current schedule, meet with the instructor during office hours ASAP.

Homework: Homework (or "For Next Time" a.k.a. FNT's) assignments are assigned to engage your understanding from class activities to new (or apparently new) situations. Additionally, problems may be given to stimulate new discussions in anticipation of new physical concepts. It is important that you come prepared to participate in activities and discussions in class. If you have a difficult time with the problem, you should include notes and specific questions about how to go about addressing the problem. These notes and questions can be used to start or enrich the group discussion during class. Failure to do so will cost you significant progress in developing understanding of the physical concepts. Additionally, it robs the other participants your small group from your assistance in tackling the class assignments. Therefore, your progress on the assignments will be checked at the beginning of class. Your cumulative performance on these assignments as well as you participation in the in class activities will be given a grade of High Pass (HP), Pass (P), Low Pass (LP), Unsatisfactory (U), or Fail (F). This grade will then be added to your course grade as follows:

HP	add 0.33 points to grade
P	no change to grade
LP	subtract 0.33 points from grade
U	subtract 1.0 points from grade
F	subtract 5.0 points from grade (this is an automatic fail for the course)

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The Following Statements Apply To All Students:

LINDSEY WILSON COLLEGE
STATEMENTS FOR INCLUSION IN THE SYLLABUS
2012-2013

Academic Integrity
Academic integrity is essential to the existence of an academic community. Every student is responsible for fostering a culture of academic honesty, and for maintaining the integrity and academic reputation of Lindsey Wilson College. Maintaining a culture that supports learning and growth requires that each student make a commitment to the fundamental academic values: honesty, integrity, responsibility, trust, respect for self and others, fairness and justice.

To foster commitment to academic integrity, faculty are asked to require each student to place and sign the following Honor Code on tests, exams and other assignments as appropriate: **On my honor as a student, I have neither given nor received any unauthorized aid on this assignment/exam.**

Violations of the academic integrity policy include cheating, plagiarism or lying about academic matters. Plagiarism is defined as any use of another writer's words, concepts, or sequence of ideas without acknowledging that writer by the use of proper documentation. Not only the direct quotation of another writer's words, but also any paraphrase or summary of another writer's concepts or ideas without documentation is plagiarizing that writer's materials. Academic dishonesty is a profoundly serious offense because it involved an act of fraud that jeopardizes genuine efforts by faculty and students to teach and learn together. It is not tolerated at Lindsey Wilson College.

Students who are determined to have plagiarized an assignment or otherwise cheated in their academic work or examinations may expect an "F" for the activity in question or an "F" for the course, at the discretion of the instructor. All incidents of cheating or plagiarism are reported by the instructor to the Academic Affairs Office along with copies of all relevant materials. Each instance of cheating or plagiarism is counted separately. A student who cheats or plagiarizes in two assignments or tests during the same semester will be deemed guilty of two offenses. If the evidence is unclear, or if a second offense occurs, the VP for Academic Affairs or Associate Dean will work in cooperation with the Dean of Students to move the student before the campus Judicial Board for review. Violations will ordinarily result in disciplinary suspension or expulsion from the College, depending on the severity of the violation involved. **Note:** The College has purchased Turnitin.com, a web product used to detect plagiarized documents.

Questioning a Grade -- The Student Academic Complaint Policy
A student, who wishes to question **an assignment grade, or other academic issue**, should follow the procedure below:

1. Whenever possible, the student will first go to the faculty member who has assigned the disputed grade. Complaints regarding grades should be made within seven (7) days of receipt of the disputed grade and, if possible, will be decided by the faculty member within seven (7) days of receipt. If the disputed grade is the final grade for the course, "receipt" is defined by when the final grade is posted online by the registrar. (Please refer to the next section for appealing a final grade.)

2. Unless there are extenuating circumstances, the student may, within seven (7) days request in writing a review of such decision by the Chair of the division in which the grade was assigned. Upon receipt of such request, that Chair

will direct the faculty member and the student to each submit, within seven (7) days, if possible, a written account of the incident, providing specific information as to the nature of the dispute.
3. Upon receipt of these written accounts, the Chair will meet, if possible, within seven (7) days with the faculty member and the student in an effort to resolve the dispute and will render his or her decision in writing.

4. If either the student or the faculty member desires to appeal the decision of the Division Chair, the student or faculty member may, within seven (7) days by written request to the chair, ask that the matter be reviewed by a Grade Appeals Panel convened by the Academic Affairs Office.

5. If the disputed grade is assigned at the end of a fall or spring semester and the student and faculty member cannot meet to resolve the issue, the student should contact the faculty member by e-mail within seven (7) days of receipt of the disputed grade. If the issue cannot be resolved by e-mail within the time limit, steps 2, 3 and 4 of the appeal may extend into the beginning of the semester immediately following receipt of the disputed grade by following the timeline above.

A student who wishes to question a **final grade** should follow the procedure below:

1. Confer with the faculty member who assigned the disputed grade.

2. If the disputed grade cannot be resolved, a written request for a grade appeal must be submitted to the Academic Affairs Office before the first day of the semester following the one in which the grade was issued. The written request must include the specific basis for the appeal.

3. The Academic Affairs Office will convene a Grade Appeals Panel, comprised of the Vice President for Academic Affairs, the Associate Academic Dean, and the chair of the academic unit which houses the course for which the grade is appealed. If one of the members is the faculty member who issued the grade, an alternate will be appointed. The student and the faculty member may appear separately before the panel to explain their positions. The hearing is non-adversarial. Neither the faculty member nor the student may be accompanied by other individuals to the meeting of the Grade Appeals Panel. The Grade Appeals Panel will notify the student of its decision, if possible, within seven (7) days of the meeting.

Policy for Verification of Student Identity and Protection of Privacy

In compliance with United States Federal Higher Education Opportunity Act (HEOA), Public Law 110-315, all credit-bearing courses and programs offered through distance learning methods must verify that the student who registers for a distance education course or program is the same student who participates in and completes the course or program and receives academic credit. One or more of the following methods must be used:

a) A secure login and pass code;
b) Proctored examinations; and/or
c) Remote proctoring of one of more examinations using Tegrity or other technologies

Verification of student identity in distance learning must protect the privacy of student information. Personally identifiable information collected by the College may be used, at the discretion of the institution, as the basis for identity verification. For instance, a student requesting that their learning system password be reset may be asked to provide two or more pieces of information for comparison with data on file. It is a violation of College policy for a student to give his or her password to another student.

Detailed information on privacy may be located at:
http://www.lindsey.edu/media/319883/Online%20Services%20Privacy%20Policy%204.20.12.pdf

Institutional Review Board (IRB) Policies

The Lindsey Wilson College Institutional Review Board (IRB) safeguards the rights and welfare of human participants in research and other research activities. Lindsey Wilson College faculty, staff, and

students, which comprise its academic unites, and facilities, are subject to the IRB policies. This includes any research for which a research agreement (e.g. MOU) identifies Lindsey Wilson College Institutional Review Board (IRB) as the IRB of record. All student-led human subject research mush have a LWC faculty sponsor. All faculty members and students conducting human subject research are required to submit documentation of training on research involving human subjects that has been completed within two years of the onset of the proposed research. Online training is available at http://php.nihtraining.com/users/login.php.

Statement on Learning/Physical Disabilities

Lindsey Wilson College accepts students with learning disabilities and provides reasonable accommodation to help them be successful. Depending on the nature of the disability, some students may need to take a lighter course load and may need more than four years to graduate. Students needing accommodation should apply as early as possible, usually before May 15. Immediately after acceptance, students need to identify and document the nature of their disabilities. It is the responsibility of the student to provide to the College appropriate materials documenting the learning disability, usually a recent high school Individualized Education Program (IEP) and results from testing done by a psychologist, psychiatrist, or qualified, licensed person. The College does not provide assessment services for students who may be learning disabled. Although LWC provides limited personal counseling for all students, the College does not have structured programs available for students with emotional or behavioral disabilities. For more information, call Ben Martin at 270-384-7479.

Academic Success Center

The Academic Success Center, located in the Everett Building, offers peer tutoring to aid students in completing class assignments, preparing for exams and improving their understanding of content covered in a particular course. In addition, computers are available for student use.

Students are encouraged to utilize this Center as a resource for improving study strategies and reading techniques. The Center also offers assistance with other academic problems resulting from documented learning disabilities. All services are free of charge to all Lindsey Wilson College students (students with learning disabilities are responsible for providing documentation from an appropriate outside professional source such as a professional evaluation or school IEP). Please contact Maretta Garner, Tutor Coordinator at 384-8037 for further information and assistance.

Writing Center and Mathematics Center

The Writing Center (located in the Slider Humanities & Fine Arts Building), and the Mathematics Center (located in the Fugitte Science Building) are available for specialized tutoring at no charge to students. Please contact Jared Odd, Writing Center Coordinator, at 384-8209 or Linda Kessler, Math Tutor Coordinator, at 384-8115 for further information and assistance.

Final Exams

Final Exams for day classes are scheduled for the Fall 2012 semester on **December 10-14 and May 6-10** for the Spring 2013 semester. The academic calendar, which contains the schedule for finals, is in the College Catalog and course schedule listing. Please make any necessary flight arrangements **after** the final exam week. **Students will not be permitted to take early finals** unless extenuating circumstances exist. "Extenuating circumstance" means illness, a verified family emergency or participation in officially sponsored travel in support of an event arranged by the College. **Travel arrangements must be made in sufficient time** that tickets may be obtained after final exams and the semester is officially over. All requests for early finals must be made in person to the Academic Affairs Office.

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Email Policy
All Lindsey Wilson College students are required to communicate with LWC faculty and staff via LWC (Lindsey.edu) email addresses only. Alternative email addresses should not be used when communicating with LWC faculty and staff.

Cell Phone Policy
Student cell phones will be off during class time unless prior arrangement is made with the instructor.

Adding/Dropping a Course
Students enrolled in the following courses cannot drop these classes during the semester: READ 0713, 0723, 0733, 0903, 1013 and 1023; STSK 1003; ENGL 0903 and 0904; and ESL 0803, 0804 and 0854.

For undergraduate classes at the Columbia campus, adding a course, dropping a course, or changing from one section of a course to another section of the same course requires the approval of the advisor and the instructor for each course involved as indicated on the Add/Drop Form. The change must be reported to the Business Office and the Registrar's Office on an Add/Drop Form, which may be obtained from the Registrar's Office. For AIM courses, adding a course, dropping a course, or changing from one section of a course to another section of the same course requires the approval of the Director of the Evening Program. For courses taught at Community sites, adding a course, dropping a course, or changing from one section of a course to another section of the same course requires the approval of the Site Coordinator for the campus. Permission to add courses will not be given after the last date for late registration. Authorization for dropping a course will not be approved after more than 75% of the instructional days for a course are completed, as outlined below:

Course	Deadline	Submitted by the Student to
Columbia undergraduate and graduate full semester courses	Not later than 30 days before the end of the semester	Registrar
AIM courses	By the sixth week of class	Registrar
Courses at Community Campuses	By the third weekend of class	Site Coordinator or the Registrar

If changes are not properly approved and officially reported as stated above, students will receive a grade of F in the courses for which they are officially registered, and they will be charged for all such courses. Students will not receive credit for changed or added courses unless they officially register for those courses.