IMPORTANT: Please retain this material and consult it regularly during the semester. This information will be important to you as the course progresses.

LECTURER: Martin Williams MacN 213 x58546 email: mwilli04@uoguelph.ca

QUIZ ROOM SUPERVISOR: Cindy Wells SCIE1101A x52445 email: cwells@uoguelph.ca
(Please contact the Quiz Room Supervisor with all course related inquiries and to report any errors in your Desire2Learn record.)

THE PURPOSE OF THIS COURSE:
This course is equivalent to a senior high school physics course. It provides a solid foundation in mechanics, electricity and waves for students prior to taking first-year university physics courses such as PHYS*1000, PHYS*1010, PHYS*1070, PHYS*1080, and PHYS*1130. Students who have received a credit in OAC Physics or 4U Physics may not take PHYS*1020 for credit.

ACADEMIC MISCONDUCT
The University of Guelph takes a serious view of academic misconduct and will severely penalize students, faculty and staff who are found guilty of offences associated with misappropriation of others' work, misrepresentation of personal performance and fraud, improper access to scholarly resources, and obstructing others in pursuit of their academic endeavours. Each student is assumed to be familiar with the regulations surrounding academic misbehaviours, as spelled out in the Undergraduate Calendar. http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml

CONFLICTS WITH MIDTERM EXAMS IN OTHER COURSES:
Sometimes students will have a conflict between a midterm exam in another course and either a lecture or a lab in this course. The University has a very clear and well-defined policy to cover this situation: the regularly-scheduled lecture or lab holds priority. In other words, it is the responsibility of the faculty member who has scheduled the midterm exam to make special arrangements with students who have conflicts. This policy is stated explicitly in the Undergraduate Calendar under the heading “Midterm Examinations”.

Students in this course will need to use Desire2Learn (D2L) to check their term marks and obtain course related information. As soon as possible, you should check that you can log in to D2L:
* Use a web browser to go to: http://courselink.uoguelph.ca/
* Follow the login instructions.

TEXT & OTHER COURSE MATERIALS:

Study Guide/Lab Manual (2012 printing) Available for purchase for $15.00 in the Physics quiz room SCIE 1101A (new Science Complex)
Thurs/Fri/Mon/Tues Sept. 6,7,8,10,1112 during these hours: 9-12noon/1-4 After Sept. 12th during regular quiz room hours. CASH ONLY PLEASE. Exact change appreciated.
i-Clicker Student Response Unit – available in the University Bookstore. A Classroom Response System will be used this semester where students use Personal Response Units (commonly known as “clickers”) to register their responses to questions posed in class.

Student Access Kit for MasteringPhysics (a web-based tutoring system). Part of your grade in PHYS*1020 will be determined by your performance in MasteringPhysics problem assignments. Stand-alone Access Kits are available in the bookstore.
The following items are available on D2L:

a) Sample Quiz for each section  
b) Sample Midterm Examinations  
c) Sample Final Examinations

(iii) Calculator (get one with trig functions, e^x, etc.) (graphing calculators and any electronic devices are not allowed in the quiz room or at exams).

(iv) This Course Outline: includes important dates and deadlines, lecture schedule, evaluation information, personal record sheet, etc.

LECTURES:
MacN105 Mon., Wed., Fri.  Sec 01: 10:30 – 11:20 am  
Roz104 Mon., Wed., Fri.  Sec 02: 3:30 - 4:20 pm

MIDTERM EXAM: Wednesday October 24, 2012  
Sec 01: 10:30 – 11:20 am  Sec 02: 3:30 to 4:20 pm

FINAL EXAM: December 14th, 2011 11:30am-1:30pm

LOST AND FOUND: "Lost and Found" is in the Quiz Room (SCIE1101A).

PHYS*1020  F’12

DEADLINES AND IMPORTANT NOTES

STUDENTS MUST SHOW THEIR U OF G PHOTO ID CARD IN ORDER TO WRITE A QUIZ

NOTE: ONLY 1 QUIZ ATTEMPT PER TIME SLOT ALLOWED ON SAME QUIZ GROUP

Quiz Room (SCIE1101A) opens Thurs. Sept. 6  
Wk. 1 - Thurs./Fri. Sept. 6 & 7/Mon.-Fri. Sept. 10-14

Wk. 4 - Wed. Oct. 3  Last day Quiz #1

Wk. 6 - Wed. Oct. 17  Last day Quiz #2

Wk. 10 - Wed. Nov. 14  Last day Quiz #3

Wk. 12 - Wed. Nov. 27  Last day Quiz #4

Wk. 12 - Thurs. Nov. 29  QUIZ ROOM CLOSES Thur. Nov. 29th at 4:00pm

NO CREDIT WILL BE GRANTED FOR LABS OR QUIZZES COMPLETED DURING A PREVIOUS SEMESTER.

YOUR 1ST ATTEMPT SHOULD BE WELL IN ADVANCE OF THE QUIZ DEADLINE TO ALLOW FOR A 2ND OR 3RD ATTEMPT IF NECESSARY

BOOK BAG LOCK (optional) – Book bags are not allowed to be taken to your quiz writing station in the quiz room. The designated area for book bags is equipped with cables for locking (you must bring your own lock).

***See pg 6 for detailed quiz material requirements***

QUICK ROOM SCIE1101A & PHYSICS LEARNING COMMONS LIB370 HRS: on D2L

Note: times given are when the door opens and closes.
OCTOBER 8TH THANKSGIVING DAY - CLOSED

LABORATORY (MacN 301)/TUTORIAL(MacN401) SCHEDULES
You selected a particular lab section when you registered for the course. You must attend your lab section; do not attempt to complete the exercise in another time slot. For all lab sections, each of the experiments will take place as follows:

<table>
<thead>
<tr>
<th>Wk.</th>
<th>Dates</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Sept 17 to 21</td>
<td>Tutorial</td>
</tr>
<tr>
<td>3</td>
<td>Sept 24 to 28</td>
<td>Experiment #1 – Introduction to the use of motion sensors and DataStud</td>
</tr>
<tr>
<td>5</td>
<td>Oct 9-12</td>
<td>Tutorial</td>
</tr>
<tr>
<td>7</td>
<td>Oct 22 to 26</td>
<td>Experiment #2 – Newton’s 3rd law</td>
</tr>
<tr>
<td>9</td>
<td>Nov 5 to 9</td>
<td>Experiment #3 – Conservation of energy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tutorial</td>
</tr>
<tr>
<td>11</td>
<td>Nov 19 to 23</td>
<td>Experiment #5 – Ohm’s Law</td>
</tr>
<tr>
<td>12</td>
<td>Nov 25-29</td>
<td>Tutorial</td>
</tr>
</tbody>
</table>

NOTE: Experiment #4 – Conservation of momentum (Take Home Lab)
Material will be covered during class in week 8 – you will be required to complete this lab at home

Contact your lab TA immediately if you miss your scheduled lab

APPROXIMATE LECTURE SCHEDULE:

<table>
<thead>
<tr>
<th>Week(s)</th>
<th>Topic(s)</th>
<th>Textbook Chapter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, and part of week 3</td>
<td>Describing motion – velocity, acceleration, etc.</td>
<td>1, 2, 3 and 4</td>
</tr>
<tr>
<td>3 and 4</td>
<td>What controls motion? – forces and Newton’s Laws</td>
<td>5 and 6</td>
</tr>
<tr>
<td>5, 6 and part of 7</td>
<td>Energy and momentum – another way of understanding motion</td>
<td>7 and 8</td>
</tr>
<tr>
<td>7</td>
<td>Midterm test will take place in class on Wed. Oct 24</td>
<td></td>
</tr>
<tr>
<td>7 and part of 8</td>
<td>Gravity – what is weightlessness and why don’t satellites fall to earth?</td>
<td>9</td>
</tr>
<tr>
<td>9, 10 and 11</td>
<td>What are volts and amps, and how do electric circuits work?</td>
<td>11 and 12</td>
</tr>
<tr>
<td>12</td>
<td>What are waves, and how do they behave? e.g. light</td>
<td>13 and 14</td>
</tr>
</tbody>
</table>

QUIZZES
You can in principle try quizzes in any order. However, note that quizzes are withdrawn on specific dates (see pg. 2), so these should be attempted as appropriate. A non-credit PRETEST must be passed (minimum 60%) before its Quiz can be written for credit. The PRETESTS are available on D2L.

Each PRETEST is an aid to help you learn the material contained in the associated Study Guide. See page 6 for pre-test details. When you have passed the PRETEST (min. 60%), you should have acquired a basic understanding of the material in the Study Guide and you are now ready to write the quiz. The format of the PRETEST is DIFFERENT from that of the QUIZ. A sample of each QUIZ is provided on D2L for you to look at. The QUIZ tests mastery of that material, and so you may find that you do not pass the QUIZ on the first attempt (see pg. 4 for detailed information).
You will need your University of Guelph photo ID card in order to write a quiz. The time allotted for each quiz is **20 minutes**. When you have completed the quiz, it is marked immediately by a tutor in your presence. In this way, no time is wasted teaching you things you already know, but the quiz will isolate those things (if any) you don't know. The tutor will give you help on the spot when time permits otherwise please visit our help room (location and open hours are posted on D2L). It is important to emphasize the diagnostic aspect of this quiz; diagnosis is its prime purpose. It is of no value to write one if you are not prepared; you are wasting everyone's time. The level at which you are considered to have "mastered" the material is 80%, i.e., the "pass mark" is 8 out of 10.

Each quiz that is mastered contributes 8% toward your course mark. If you do not get 80% on your first attempt (and you may not), it doesn't matter. There is no stigma attached to failing this quiz; that is not its purpose. You may go away, study, and try again. The quiz will have served to show you what you must study for that section. Obviously there must be a limit to the number of times you may write a version for each quiz, and this has been set at three. **Also, you may not attempt more than one version of each quiz in a single quiz period.**

During quizzes (as well as the midterm and final examinations), you may use a pocket calculator (**graphing calculators or any other electronic devices are not allowed**). In the quiz room, each desk is provided with a sheet of formulae. A copy of this sheet will be included in the midterm and final exam. **No material in the form of quizzes or paper may be brought in or taken from your assigned station in the Quiz Room and all paper used when writing a quiz must be turned in.** You should visit the quiz room during the first week of the semester to see how the system operates.

Self-paced study is a new experience for most students. At best, it permits you to work ahead in physics early in the semester, freeing study time for other courses during heavy weeks. At worst, there is a temptation to leave things too late. To help pace students, deadlines are placed on quizzes. (Refer to pg. 2.)

**EVALUATION OF QUIZ MARKS**

<table>
<thead>
<tr>
<th>Quiz marks</th>
<th>Mark received</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/10 or higher</td>
<td>10 out of 10</td>
</tr>
<tr>
<td>between 4.0/10 and 7.5/10 (inclusive)</td>
<td>2 marks per attempt†</td>
</tr>
<tr>
<td>less than 4/10</td>
<td>receive zero</td>
</tr>
</tbody>
</table>

This partial mark of 2 does not add to a mark of 10. It is awarded on the condition you do not receive a “pass” on any attempt on a unit quiz. See the examples below.

**Four examples:**

(i) A student earns 4.0/10 on the first quiz attempt, 6.0/10 on the second quiz attempt, and 8.0/10 on the third quiz attempt. Mark received: 10 out of 10.

(ii) A student earns 4.0/10 on the first quiz attempt, 5.5/10 on the second quiz attempt, and 7.5/10 on the third quiz attempt. Mark received: 6 out of 10.

(iii) A student earns 2.5/10 on the first quiz attempt, 4.0/10 on the second, and 7.5/10 on the third. Mark received: 4 out of 10.

(iv) A student earns 7.5/10 on the first quiz attempt and tries no further quizzes. Mark received: 2 out of 10.

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†If you absolutely cannot stay to have your quiz marked, you may leave it. It will be marked at the end of the quiz period and the mark posted. It will be available for you to look at for two further quiz periods.
LABORATORY EXERCISES
The laboratory activity will be assigned a pass or fail distinction by the TA at the end of the laboratory period. You must show your TA your results by the end of 90 minutes in the laboratory session. The remaining 20 minutes of your assigned time will be available for students to correct mistakes (when necessary) in order to allow for reassessment by the TA. It is crucial that you read the instructions in your lab before you arrive for the experiment. Failure to adequately prepare for the session may result in the assignment of a failing grade for that experiment.

TUTORIALS
Periods for obtaining help with the course material.

MIDTERM EXAMINATION
The midterm exam is Wednesday October 24th in class. The midterm will consist entirely of multiple choice questions. Sample midterm exams are available through D2L.

FINAL EXAMINATION
The final exam is DECEMBER 14, 2012 11:30am-1:30pm. Details regarding the location will be available through D2L later in the semester. The final examination will consist of multiple choice and short-answer problems. Sample final examinations are available through D2L.

ONLINE HOMEWORK
During the course of the semester there will be 5-6 optional online homework (MasteringPhysics) assignments for students to complete. Students have the option of completing these assignments or have their Midterm and Final exams weighting adjusted as shown below.

COURSE EVALUATION
These two evaluation options are available to students as illustrated below. The course grade will be calculated based on the scheme that produces the highest grade:

<table>
<thead>
<tr>
<th></th>
<th>Scheme #1</th>
<th>Scheme #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes:</td>
<td>4 x 8%</td>
<td>32%</td>
</tr>
<tr>
<td>Online Homework</td>
<td>10 x 0.8</td>
<td>0%</td>
</tr>
<tr>
<td>Experiments (Pass = 2%, Fail = 0%):</td>
<td>5 x 2%</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm:</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>Final examination:</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

ACCURACY OF RECORDS: It is your responsibility to use D2L to check that your marks are recorded correctly. Please check your record often and report any discrepancies immediately to the Quiz Room Supervisor (email address on pg. 1). As an aid, a ‘Personal Record Form’ is attached to this handout. You should use this form to record your quiz attempts, etc., and from time to time check the computer record against your personal record.

ILLNESS: If you are away for brief periods of time due to illness or for compassionate reasons, see the Quiz Room Supervisor (email address on pg. 1) about consideration of extension of quiz deadlines, etc. For an extended illness, etc. (> 1 week), you should obtain a medical certificate or similar documentation and consult the quiz room supervisor or the instructor. If you miss the midterm, you need to provide the instructor with appropriate documentation upon your return. If you miss the final examination because of illness or for other reasons, see your Program Counsellor. Attendance at the laboratory is, of course, very important. If you miss a laboratory experiment because of illness, or for compassionate reasons, please see your laboratory/tutorial instructor for possible academic consideration.

COURSE NOTICES: From time to time, notices pertaining to the course will be posted on D2L, given in lectures and/or posted by the Quiz Room door or inside the quiz room (SCIE1101A). You should check this door and room weekly for notices and reminders, etc. It is your responsibility to keep yourself informed regarding these special announcements.
**OBTAINING HELP IN THE COURSE**

(a) Brief questions can be answered by the course professor after lectures. Otherwise, the instructor will be available during office hours. Office hours will be announced in class.

(b) **Physics Learning Centre LIB370, 3rd floor Library** – Is staffed by course TAs and facilitates valuable one-on-one support for students. Lost and found for LIB370 is at the circulation desk in the library. Opening hours will be posted on D2L.

(c) **Supported Learning Groups (SLG’s)** - Organized through the Learning Commons at the library, SLG’s provide an opportunity for you to meet regularly with your classmates to discuss course concepts, to practice using new vocabulary and skills, and to test yourself before quizzes and exams. SLG sessions are led by trained Peer Helpers who have recently taken the course and done very well (please note that SLG’s are not a replacement for the physics help provided in the department. There will be in-class announcements soon to inform you of the meeting times.

(d) Step-by-step problem solving exercises developed specifically for this course, covering each major unit at:

   [www.physics.uoguelph.ca/~phyjlh/SPS/](http://www.physics.uoguelph.ca/~phyjlh/SPS/) and [www.physics.uoguelph.ca/tutorials/tutorials.html](http://www.physics.uoguelph.ca/tutorials/tutorials.html)

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**Phys*1020**

**Course and Quiz Organization and Preferred Path**

Quiz #1 requirements
- Unit conversion & significant digits SG. 1
- 1D Kinematics SG. 1
- Vectors SG. 1
- **Pretest 1 (on-line) min. 60%**

Quiz #2 requirements
- 2D Kinematics SG. 2
- Uniform circular motion SG.2
- Forces & Newton’s laws SG.3
- Inclined planes SG.3
- **Pretest 2 (on-line) min. 60%**

Midterm Examination – covers all of SGs 1 – 4 (Chapters 1 - 7 of text)

Quiz #3 requirements
- Momentum & collisions SG. 5
- Gravitation SG.6
- Electric charge & Coulomb’s law SG. 7
- **Pretest 3 (on-line) min. 60%**

Quiz #4 requirements
- Electric fields & Potential SG. 8
- Electric circuits & Ohm’s law SG. 9
- **Pretest 4 (on line) min. 60%**
THE PRETESTS

Before any Quiz can be written for credit, a PRETEST must be taken and passed at the level of 60%. Allow at least 1 hour prior to attempting related quiz. These PRETESTS are designed to permit a self-examination of the basic concepts and objectives of the modules in question. Each PRETEST consists of a variety of simple questions in one of 4 formats:

1. multiple choice
2. true or false
3. pairwise matching
4. enter a number or symbol

The PRETESTS are delivered using D2L and so can be taken from any location which has computers connected to the internet (MacN 315, Library, home, etc.). Login instructions are given on pg. 1.

Follow the login instructions which enable you to take the PRETEST. Upon completion it will be marked and a result is provided for every question selected.

When you obtain at least 60% on the PRETEST, you may proceed to the Quiz Room to write a QUIZ for credit. (Allow at least 1 hour for your mark to process before attempting related quiz).

If you failed to get 60%, you must repeat the Pretest until 60% is obtained. Pretests attempts are unlimited.

Of course, you get the maximum advantage from these PRETESTS if you do them without help and, as much as possible, without aids (textbook, etc.).

It is a serious academic offence to copy, print or otherwise store the pretests or to attempt to alter them in any way.

Also available on D2L are SAMPLE QUIZZES for each Study Guide, similar to quizzes that you will write in the Quiz Room.

The Department of Physics requires student assessment of all courses taught by the Department. These assessments provide essential feedback to faculty on their teaching by identifying both strengths and possible areas of improvement. In addition, annual student assessment of teaching provides part of the information used by the Department Tenure and Promotion Committee in evaluating the faculty member’s contribution in the area of teaching.

The Department’s teaching evaluation questionnaire invites student response both through numerically quantifiable data, and written student comments. In conformity with University of Guelph Faculty Policy, the Department Tenure and Promotions Committee only considers comments signed by students (choosing “I agree” in question 14). Your instructor will see all signed and unsigned comments after final grades are submitted. Written student comments may also be used in support of a nomination for internal and external teaching awards.
NOTE: No information will be passed on to the instructor until after the final grades have been submitted.
PERSONAL RECORD

PHYS*1020

Introductory Physics

Student Name: _______________________________  Semester: ________________

It is **strongly recommended** that you use this sheet to keep a personal record of your term work in this course. For each quiz attempt, record the date, session (AM, AFTERNOON, EVENING), version (A, B, etc.), and result. Also record the date when each laboratory experiment is completed and the grade earned.

This record will be **useful** when you check your record on D2L. On rare occasions, errors or omissions can be made in recording passed quizzes, *etc.* Therefore, from time to time, you should **check your record** on the computer, particularly **at or near the end of the semester**. **Remember, it is YOUR responsibility to ensure that your computer record is correct.**

You should also retain this record until you receive your final grade in the course. The record can be extremely useful to you and to the course instructor if you wish to have your final grade checked.

<table>
<thead>
<tr>
<th>Quiz</th>
<th>Attempt #1 Date, version, mark received (0, 2 or 10)</th>
<th>Attempt #2 Date, version, mark received (0, 2 or 10)</th>
<th>Attempt #3 Date, version, mark received (0, 2 or 10)</th>
<th>Final mark Received for unit (0,2,4,6 or 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz #1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quiz #2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quiz #3</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Quiz #4</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**TOTAL QUIZ MARKS**  ____________

**LAB COMPLETION RECORD**

<table>
<thead>
<tr>
<th>Experiment #1</th>
<th>Experiment #2</th>
<th>Experiment #3</th>
<th>Experiment #4</th>
<th>Experiment #5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: Pass/fail:</td>
<td>Date: Pass/fail:</td>
<td>Date: Pass/fail:</td>
<td>Date: Pass/fail:</td>
<td>Date: Pass/fail:</td>
</tr>
</tbody>
</table>

**MIDTERM EXAM MARK:** ______________