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

PREREQUISITES: (1 of 4U Physics, OAC Physics, PHYS*1020), 4U or OAC Mathematics

LECTURERS: The Great Orbax  MacN328  x52625  email: orbax@uoguelph.ca
Martin Williams  MacN213  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 email to report any illness or errors in your D2L record.)

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 misconducts, as spelled out in the Undergraduate Calendar. http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml

Students in this course will need to use Desire2Learn (D2L) to write REQUIRED pretests, perform a simulated experiment on radiation (pretest 5), and check their term marks. 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 D2L login instructions.

TEXT & OTHER REQUIRED MATERIALS:


Study Guide and Laboratory Manual for PHYS*1070, 2012 Printing: $35.00. Available in the Quiz Room SCIE1101A (CASH ONLY)*. Please Note: There has been significant changes between the 4th and 5th editions of the textbook and the study guide/lab manuals for PHYS*1070 & 1080. If you use old versions of these books you do so at your own risk.

* The Quiz Room will be open for the sale of manuals Mon-Fri Jan. 7 - 11 during the following hours: 9-12noon/1-4. After Jan. 11th this item may be purchased in the Quiz Room during normal Quiz Room daytime hours as posted on D2L.

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.
The following items are available on D2L:

a) Sample Final Examinations  
b) Sample Quiz on each study guide  
c) Solutions to self-tests

Calculator (get one with trig functions, $e^x$, etc.) (Cell phones, graphing calculators, programmable calculators, and electronic devices, are not allowed in the quiz room).

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

DROP AND ADD FORMS: Instructor's signature is not required in this course.

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

LECTURES: MacN105 Mon., Wed., Fri. Sec 01: 2:30 – 3:20pm Sec 02: 10:30am - 11:20pm

FINAL EXAM: Tuesday, April 9, 2013 7-9pm

PHYS*1070 W’13

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

Monday, January 7th, 2012 - QUIZ ROOM OPENS FOR WRITING QUIZZES

Wk. 1 - Wed. Jan. 9  
Lab Room (MacN304) is open.

Wk. 3 - Fri. Jan. 25  
Last day Quiz #1  
Requirements  
- Waves SG.1  
- Acoustics SG.2  
- Pretest 1 (on-line)

Wk. 5 - Fri. Feb. 8  
Last day Quiz #2  
Requirements (2 labs required)  
- Optics SG.3  
- Pretest 2 (on-line)  
- Experiment 2 – Acoustics (MacN304)  
- Experiment 3 – Optics of the Eye (MacN304)

Wk. 7 - Fri. Mar. 1  
Last day Quiz #3  
Requirements (2 labs required)  
- Diffraction, etc. SG.4  
- Pretest 3 (on-line)  
- Experiment 4 – Diffraction and Resolving Power (MacN304)  
- Experiment 6 – Visible Spectroscopy (MacN304)
Wk. 9 - Fri. Mar. 15    Last day Quiz#4  
Requirements  
- Light Absorption SG.5  
- Observed Abs. SG.6  
- Pretest 4 (on-line)  

Wk. 11 - Thur. Mar. 28    Last day Quiz #5  
Requirements (2 labs required)  
Pretest 5 (on-line computer lab – Radiation - exp 7)  
- Experiment 8 – Electrical Measurements and Resistance  
    (MacN304)  

Wk. 11 - Wed. Mar. 27    Last day Laboratory (MacN304) is open.  

Wk. 12 - Fri. April 5    QUIZ ROOM CLOSES FRIDAY, APRIL 5TH at 4:00pm  

Ionizing Radiation SG.7 and Electricity SG.8 will be tested on the final exam (approximately 3 questions on each study guide.)  

YOUR 1ST ATTEMPT SHOULD BE AT LEAST 3 TIME SLOTS BEFORE THE DEADLINE TO ALLOW FOR A POSSIBLE 2ND OR 3RD ATTEMPT. ALL QUIZZES ARE AVAILABLE FROM WEEK 1 AND THEY CAN BE WRITTEN AS EARLY AS YOU WANT. THE DATES ABOVE ONLY REFLECT THE LAST POSSIBLE DATE THAT PARTICULAR QUIZ IS AVAILABLE TO WRITE.  

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

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).  
PRETESTS MUST BE PASSED WITH A MINIMUM OF 60% BEFORE THE REQUIRED QUIZ IS ATTEMPTED. ALLOW AT LEAST 1 HOUR FOR YOUR PRETEST GRADE TO BE PROCESSED.  

LAB EXPERIMENT SIGN UP IS DONE ON-LINE VIA D2L. BEGIN YOUR LABS AS SOON AS POSSIBLE. IT IS RECOMMENDED THAT YOU START THE LAB PORTION OF THIS COURSE WITH THE FIRST COUPLE OF WEEKS OF THE SEMESTER. IT IS MANDATORY THAT YOU SIGN UP FOR ALL YOUR LABS AND CREATE YOUR OWN PERSONAL LAB SCHEDULE EARLY IN THE SEMESTER TO ENSURE THAT ALL LABS CAN BE COMPLETED BY THE LAB QUIZ DEADLINE DATES. PRINT A COPY OF YOUR LAB SCHEDULE AND STAPLE IT INSIDE YOUR LAB MANUAL AS YOUR LAB TA MAY ASK FOR IT IF MORE THAN THE MAX. NUMBER OF STUDENTS SHOW UP FOR A BOOKED STATION. ONLY THOSE SIGNED UP TO A STATION WILL BE ALLOWED IN THE LAB.  
PLEASE NOTE: LAB SIGN-UP IS RESTRICTED TO 1.5 HOUR TIME SLOTS WHICH IS SUFFICIENT TIME TO COLLECT THE REQUIRED DATA AND COMPLETE YOUR CALCULATIONS. YOU ARE REQUIRED TO BE FAMILIAR WITH THE LAB MATERIAL BEFORE ARRIVING TO ENSURE COMPLETION WITHIN THE 1.5 HR SESSION. A COMPLETION TA SIGNATURE AND SEAL IS MANDATORY PRIOR TO LEAVING THE LAB. ONCE YOU HAVE COMPLETED THE LAB DATA AND CALCULATIONS AND OBTAINED A TA SIGNATURE/SEAL YOU WILL TEAR OFF THAT SIGNED/SEALED PORTION AND HAND IT AT THE QUIZROOM WHEN MAKING YOUR FIRST ATTEMPT AT THE RELATED QUIZ.
QUIZ ROOM HOURS (SCIE1101A): Posted on D2L – see Quiz Room Hours

LAB ROOM HOURS (MacN 304): Posted on D2L – see Lab Hours
Extra opening times may be added depending on enrolment.

MONDAY- FRIDAY FEBRUARY 18-22 WINTER BREAK- CLOSED

COURSE FEEDBACK

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.

ELECTRONIC RECORDING OF CLASSES

The electronic recording of classes is expressly forbidden without the prior consent of the instructor. This prohibition extends to all components of the course, including, but not limited to, lectures, tutorials, and lab instruction, whether conducted by the instructor or teaching assistant, or other designated person. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.
<table>
<thead>
<tr>
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<th>Lect.</th>
<th>Week of</th>
<th>Topic</th>
<th>Study Guide</th>
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<tr>
<td>1</td>
<td>1-4</td>
<td>Jan. 7</td>
<td>Introduction to waves&lt;br&gt;Waves and traveling waves&lt;br&gt;Superposition and standing waves</td>
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<td>2</td>
<td>5-7</td>
<td>Jan. 14</td>
<td>Acoustic resonance&lt;br&gt;Energy, power and intensity of sound&lt;br&gt;The ear</td>
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<td>8-10</td>
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<td>11-13</td>
<td>Jan. 28</td>
<td>Lenses&lt;br&gt;General object-image concepts&lt;br&gt;The human eye, eye defects and their correction</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>14-15</td>
<td>Feb. 4</td>
<td>Electromagnetic waves&lt;br&gt;Diffraction and interference</td>
<td>4</td>
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<tr>
<td>6</td>
<td>16-18</td>
<td>Feb. 11</td>
<td>Resolution&lt;br&gt;Wave properties of particles&lt;br&gt;Orbitals; the wave equation</td>
<td>4</td>
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**WINTER BREAK FEBRUARY 18-22**

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<td>19-21</td>
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<td>22-24</td>
<td>Mar. 4</td>
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<td>25-27</td>
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<td>Radioactive decay, half-life&lt;br&gt;Absorption of radiation&lt;br&gt;Radiation dose</td>
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<td>28-30</td>
<td>Mar. 18</td>
<td>Coulomb’s law&lt;br&gt;Fields and potentials</td>
<td>8</td>
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<td>11</td>
<td>31-33</td>
<td>Mar. 25</td>
<td>Current, voltage and circuits&lt;br&gt;Ohm’s law&lt;br&gt;Simple circuits</td>
<td>8</td>
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<td>12</td>
<td>34-35</td>
<td>April 1</td>
<td>Final exam info&lt;br&gt;Problems and review</td>
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HOW THE COURSE WORKS

INTRODUCTION

Students' study schedules at University are often based on a crisis-to-crisis approach (When's my next midterm exam?) rather than on organized learning. To reduce this problem, Introductory Physics for Life Sciences is offered using a "Personalized Instruction" method which gives the student some flexibility in scheduling study time.

The central idea of this teaching method is the accommodation of both the student who needs or likes formal lecture teaching and the student who prefers guided self-instruction. Indeed, in this course, any combination of these two extremes may be mixed to the student's own taste.

Many thousands of students have taken this course and almost every semester has seen some modification, usually minor, in the operation of the course. The present version of the study materials incorporates a large number of constructive suggestions made by students. We hope you will continue to point out errors, omissions and weaknesses so that the course and its teaching materials can be regularly upgraded. We are confident that this thoroughly tested learning concept will continue to be met with enthusiastic approval from the majority of our students.

LECTURES

Formal lectures will be given and you will find a detailed timetable of dates and topics in this course handout. Students may attend all of the lectures or select only those topics in which they feel they need lecture support. You are strongly advised to attend lectures until you are sure that the self-study method works for you. In any case, the entire course content will be covered in these lectures. Whether you attend lectures or not, it is your responsibility to check the quiz room for important weekly notices regarding the course.

MODULES

The Handbook contains the eight Study Guide modules (SG 1 to 8) for this course. These eight modules cover the entire course and are designed so that you need never actually attend a lecture if you follow their advice scrupulously. (You must, however, do laboratory work.) Each module provides you with:

1) a brief introductory discussion of what the module is about,
2) the educational objectives of the module,
3) a detailed study guide (reading and problem lists, etc.)
4) self tests,
5) answers to problems, and sometimes
6) extra problems.

These self-study modules are your chief help; the Study Guide is a teacher at your side constantly and should be studied with care.
DIAGNOSTIC QUIZZES

You can in principle try quizzes in any order. However, note that quizzes are withdrawn on specific dates (see pgs. 2-3), so these should be attempted as appropriate. Also, note that some quizzes may require knowledge of material from previous quizzes. A non-credit PRETEST must be completed before its Quiz for credit can be written. The PRETESTS are available on D2L. See page 10 for details. PRETESTS are available for study guide modules 7 and 8 even though there are no quizzes. These are strongly recommended for study purposes.

Each PRETEST is an aid to help you learn the material contained in the associated Study Guide. When you have passed the PRETEST (min. 60%), you should have acquired a basic understanding of the material in the Study Guide (see pg. 10). 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. 7 for detailed information).

Regardless of the combination of formal lectures and/or self-study you use to acquire knowledge in the course, the question is "how do you demonstrate this knowledge and receive credit for it?" When you think you have mastered the contents of the required modules, and have passed (60%) the associated PRETEST, you should go to the Quiz Room where you may request a Diagnostic Quiz. This quiz is designed to test your mastery of the material. Note however a very important point: there are far more study guide topics than there are quizzes that you are expected to write. Consequently, the quizzes include questions from several study guides as shown on page 6. For example, quiz #1 contains questions from waves and acoustics. It is therefore very important that you come prepared for both. ALLOW 1 HR. FOR PRETEST MARK TO PROCESS BEFORE ATTEMPTING THE RELATED QUIZ. 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 presence1. 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. 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 module that is mastered contributes 10% toward your course mark. (See evaluation on pg. 8) 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 module. Obviously there must be a limit to the number of times you may write quizzes on a single group, and this has been set at three. Also, you may not attempt more than one quiz for each group in a single quiz period.

During quizzes (and the final examination), you may use a pocket calculator (graphing calculators 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 final exam. No material in the form of quizzes or paper may be taken from 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.

As shown on pg. 2, there are 5 quizzes to be completed. There is no quiz on SG 7 or 8, although the experiments related to SG 7 and SG 8 are covered in Quiz 5. There will be at least 3 questions each on SG 7 and 8 on the final examination.

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1If 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.
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 pgs. 2&3.)

EXPERIMENTS
There are 6 experiments to be done, associated with S.G. units 2, 3, 4, 6, 7 and 8 (see pgs. 2&3 of the outline). Five of these experiments are done in the lab room (MacN 304) and they may be performed in any order, at any time the lab is open (see page 3 and/or D2L for hours of operation). The laboratory operates as an open lab, but you must reserve a space (sign up on D2L). It is mandatory to sign-up for all required labs and create your own personal lab schedule at the start of the semester. You will not be allowed to just show up and join a group without being assigned to a station. If you miss your lab you may have a difficult time re-scheduling. Print this schedule and staple it inside your lab manual. Each station can be reserved for 1.5 hours. There is also one computer simulation (Experiment 7) which can be done at the Physical Sciences Microlab (MacN 315), the library, from home, or from any location which is connected to the internet. Once your lab is complete (data and calculations) you must have the lab TA stamp your lab to allow you to write the related quiz. When you make your 1st attempt at that quiz you will tear off the stamps portion and hand it in as proof of completion. Notice that the lab instructor does not assign a mark to your lab work, although he/she may refuse to accept it if he/she judges the work to be inadequate. Your understanding of the material is tested in the quiz on the associated Study Guide.

Experiment 7 is a computer simulation, which can be done anywhere there is a computer connected to the internet; the CPES microcomputer lab is in MacN 315, home, library, etc. You can access Experiment 7 from D2L found at http://courselink.uoguelph.ca (see pg.1). When you have completed the experiment, this information will automatically be transferred to your record (allow at least 1 hour).

Remember that some quizzes require labs to be complete prior to writing them.

No lab exemptions will be granted for labs completed in another semester.

EVALUATION OF QUIZ MARKS

Quizzes are marked out of 10

Quiz marks 8/10 or higher receive 10 out of 10 (highest possible mark per unit) between 4.0/10 and 7.5/10 (inclusive) receive 2 marks per attempt† less than 4/10 receive zero

† 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.

SUMMARY OF MARKS: quiz marks 50% (5 x 10.0) + 50% (final exam) = 100%
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 at cwells@uoguelph.ca immediately. 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 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 final examination because of illness or for other reasons, consult regulations in the current Undergraduate Calendar.

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. Office hours will be announced in class.

(b) **Physics Learning Centre, Library 3rd floor, LIB370** – The hours will be posted on D2L. **NOTE:** The Physics Learning Commons is for help in physics courses PHYS*1070 and 1080. Lost and Found for LIB370 is at the circulation desk in the library. Hours will be posted on courselink.

(c) Limited help may be obtained in rooms MacN 304 or 304A. These are the lab rooms for this course PHYS*1130 and PHYS*1080. When these rooms are open you may obtain help with course-related problems from the instructors, but remember that their first priority is to help students who are doing experiments.

(d) The Solutions to the Self-Tests (which are on reserve in the Library) and the set of 3 sample final examinations will be helpful (see pg.1). These are available through D2L and the College Microlab (see next item).

(e) **College Microlab (MacN 315):** Computerized tutorials can be accessed here. Follow the instructions on the bulletin board beside the entrance to the room. Then follow the instructions posted in the workstation you have chosen. By following instructions on the computer screen, you will sooner or later obtain a screen which allows you to select **WINDOWS.** Once you are in **WINDOWS,** you can use the mouse to click on your choices when applicable. Double click on the icon **PHYSICS TUTORIALS** and you will see a number of them listed, including the radiation lab. Other useful ones for this course are:

- Dimensional analysis
- Trigonometry
- Logarithms
- Graphing simple functions
- Graphing log paper
- Oscillating functions
- Graphing
- Exponential growth and decay
- Solutions to the Self-Tests

All of the above can be accessed from the internet via D2L

(f) Video Tapes: two video tapes related to SG 1 are available at the Library Reserve Desk:

- Travelling Waves - VTR 78461
- Standing Waves - VTR 79888

(g) Also available at the Library Reserve Desk:

- Physics for the Biological Sciences, 5th ed. (Hallett, et al.)
- Study Guide and Laboratory Manual for PHYS*1070

FINAL EXAMINATION

The final examination will consist of approximately 20 questions with multiple-choice answers. Sample final examinations are available through D2L. Normally there are 2-3 questions based on each of Study Guides 1-6 and 3 questions each on Study Guides 7 and 8, for which there are no quizzes. At least half of the questions on Study Guides 1-6 are similar in style to Quiz questions for these Study Guides. Many students have found that the final examination is difficult, even with a perfect mark on the Quizzes. This is because mastery of all of the Study Guides is required in order to achieve a perfect mark on the final examination. A **thorough review of all** of the course material is highly advisable in preparing for the final examination.
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 and the instructions which follow enabling you to take the PRETEST. Upon completion it will be marked and an explanation provided for every question for which you selected the wrong answer. These should be studied carefully.

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 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.
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 (i.e., your lab book is signed/stamped).

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.

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<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>
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**TOTAL QUIZ MARKS**

**LAB COMPLETION RECORD**

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<th>Experiment #4</th>
<th>Experiment #6</th>
<th>Experiment #7 Comp. Lab</th>
<th>Experiment #8</th>
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