**STUDENT TUTORIAL**

**1. Getting Started**

- If you already have an eGrade Plus username and password, just go to [http://egradeplus.wiley.com](http://egradeplus.wiley.com) and log in. You may be asked to submit an **access code**, if you have not already done so. Then, you should be taken directly to your class section.
- If you don’t have a username and password, just take a few minutes to register. For this, you’ll need two things: your class section URL, and your eGrade Plus access code. (If you don’t have an access code, don’t worry. We give you the opportunity to purchase one.)

- Your instructor should have provided you with a class section URL, which will look something like this: http://edugen.wiley.com/edugen/class/cls1001. Type or paste this URL into your web browser. You should see the name of the course corresponding to your textbook (e.g. Cutnell & Johnson, Physics).
- After you accept the license agreement, you will be asked to fill out a profile. Just follow the instructions on the page. The username and password that you submit here will be the username and password you will use when you return to the site to log in later.
- Finally, you will be asked to submit an **access code**. If you bought a new textbook, you should have received an access code in the package. Scratch off the card, and fill in the code exactly as it appears. Access codes are case sensitive.
- If you don’t have an access code, select the option to purchase one. Follow the steps to buy a code via the Wiley website. When you complete the process and receive your code, return to eGrade Plus and enter it.
Once you've successfully completed the registration process, you can just go to http://egradeplus.wiley.com. Entering your username and password here should take you directly to your class section. Select the profile link in the upper-right corner at any time to change your profile or view your account information.
2. Read, Study & Practice

- **Read, Study & Practice** is the area for self-guided student activity. All the study materials provided for this course are organized according to the structure of the book (by chapter). You can also switch to the resource type view to see all materials organized by type. Your instructors can also create or assemble class-specific study materials and add them to Read, Study & Practice.
- eGrade Plus contains a full-text version of your textbook, including such reference resources as the index and appendices.

**22-5 Magnetic Forces on Current-Carrying Wires**

By Equation 22.2, the magnetic force on the amount of moving charge $dq$ in a small straight length $l$ of current-carrying wire (Figure 22.4) is

$$F = (dq)v B \sin \theta$$

We will assume $l$ is short enough so that the field is essentially constant over the entire length. If it requires a time interval $\Delta t$ for all this change to pass the end point $P$ of this length, then the current is $I = \frac{dq}{\Delta t}$. To do so, the charge must be moving at a speed $\frac{dq}{\Delta t} = \frac{I}{l}$

Then the magnitude of the magnetic force on the length of wire is

$$F = (dq) \frac{l}{l} B \sin \theta = \frac{dq}{l} B l \sin \theta$$

that is,

$$F = IB \sin \theta = IB \quad \text{(same sign)}$$

(22.4)

Because the velocity of positive charge is in the direction of the conventional current, the right-hand rule in Figure 22.8 applies here as well. **STOP & THINK**: How might you use this result with the set-up in Figure 22.10 to find the strength of a magnetic field? Would this method work if the field is normal to the wire?
3. Assignment

- **Assignment** is where you will find the readings, homework, and tests assigned to you by your instructor. The main view of Assignment is a list of all assignments, with an indication of status and due date.

<table>
<thead>
<tr>
<th>Assignment Name</th>
<th>Assignment Type</th>
<th>Due Date</th>
<th>Accessible</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly 1 - Homework</td>
<td>Questions</td>
<td>06/25/2005 at 02 PM</td>
<td>Yes</td>
<td>Not Attempted</td>
</tr>
<tr>
<td>Weekly 1 - Extra Credit</td>
<td>Questions</td>
<td>Unlimited</td>
<td>Yes</td>
<td>Not Attempted</td>
</tr>
</tbody>
</table>

Assignment > Assignment List
- Your instructor sets the **policies** for each assignment. The assignment may be graded or for practice only. You may be allowed multiple attempts for each question. You may be allowed to access the assignment after the due date has passed.
Choose the question you want to attempt from the sidebar on the left, or use the arrows to page through the entire assignment. When you are finished, the Review page allows you to view your progress.
4. Gradebook

At any point during the semester, you can check your Gradebook. Assignments that are not graded have a progress indicator. Assignments that are graded have a score. Your instructor has the ability to manually score assignments (such as essays) and edit scores set by the system.
- Selecting the name of the assignment provides a more detailed view.

Gradebook > Assignment Detail