Note-Taking

Cornell System
# A CHECKLIST FOR GOOD NOTE TAKING

When you take notes, do you:

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>___</td>
<td>____ use a 3-ring looseleaf notebook divided into sections?</td>
</tr>
<tr>
<td>2.</td>
<td>____</td>
<td>___ rule your paper off ahead of time so you can use the Cornell system for clear, organized notes?</td>
</tr>
<tr>
<td>3.</td>
<td>____</td>
<td>___ always head your lecture notes with the name of the course and the date?</td>
</tr>
<tr>
<td>4.</td>
<td>____</td>
<td>___ write only on one side of each sheet of paper?</td>
</tr>
<tr>
<td>5.</td>
<td>____</td>
<td>___ put down the title or general topic of the lecture as your first entry?</td>
</tr>
<tr>
<td>6.</td>
<td>____</td>
<td>___ wait until a point shapes up in your mind before writing something?</td>
</tr>
<tr>
<td>7.</td>
<td>____</td>
<td>___ use a separate line for each major point, then skip a space or two before writing another major idea?</td>
</tr>
<tr>
<td>8.</td>
<td>____</td>
<td>___ set off details and examples by indenting them under the main point?</td>
</tr>
<tr>
<td>9.</td>
<td>____</td>
<td>___ draw a quick sketch or diagram to help illustrate a point or to aid later recall?</td>
</tr>
<tr>
<td>10.</td>
<td>____</td>
<td>___ aim for and produce brief --yet complete-- notes?</td>
</tr>
<tr>
<td>11.</td>
<td>____</td>
<td>___ invent your own abbreviations to save time?</td>
</tr>
<tr>
<td>12.</td>
<td>____</td>
<td>___ review your notes within 24 hours, editing them for readability, clarity, and completeness?</td>
</tr>
<tr>
<td>13.</td>
<td>____</td>
<td>___ review again within a week to strengthen later recall?</td>
</tr>
</tbody>
</table>

How close are you to the classic Cornell system?

Circle those items to which you answered “no” and consider ways to change and improve your notetaking skills.
EFFECTIVE NOTE TAKING . . .

. . . REQUIRES PREPARATION.

Complete your reading BEFORE class.

You can’t expect to take meaningful notes on the relationship between the principle of kinetics and the LeChatelieur principle if you’ve never heard of kinetics or LeChatelieur. If you haven’t read the material before the lecture, you’ll spend your time jotting down unfamiliar terms without knowing if they are significant. If the professor is covering a great deal of material, you’ll risk missing important points because you aren’t sure of the context of the ideas. You may well be creating more work for yourself later as you try to decipher your notes, and you certainly won’t be creating notes that will help you write a paper or review for a test!

Use the SQ4R study reading technique. When you reach the “Rite” stage or, later, in the Review stage (or both!), try one of these strategies:

Underline or take notes in the margins of your book. When you have completed the reading, copy these notes into your notebook. You might put them on the LEFT side of the page and put your class notes on the RIGHT side, or put your reading notes in RED and your class notes in BLUE. Either technique will allow you to combine the notes later for an effective review.

Write down the questions that you have after reading the material. These will give you specific issues to be listening for during the lecture, allowing you to be a more focused, purposeful participant in class.

Write your reading notes from one section of the chapter at the top of a page. Leave the rest of the page blank so that you can fill in the details from this section during the lecture.

Bring the right materials to class.

Make sure that you have looseleaf paper, pen or pencil, and other materials necessary to the class. This will save you time and aggravation, allowing you to focus on the task at hand.

Sit in the front.

You’ll be able to hear the instructor and to see any writing on the board as well as the instructor’s facial expressions and gestures. You’ll find that you’re much less likely to become distracted or to fall asleep if you’re sitting in the front. You’re making a commitment to being an active participant in the class.

Do a brief review before the lecture begins.

Go over your notes from the previous class session, or review your notes from the reading for this class. This will allow you to leave behind your previous activities and focus on this specific class.
EFFECTIVE NOTE TAKING . . .

. . . IS AN ACTIVE PROCESS.

Try the Cornell system.

Even if you’re able to write down every word the professor says, unless you have a SYSTEM for constructing your notes that allows you to USE them later, you’re just creating more work for yourself. These steps allow you to be an active note taker by listening, evaluating, drawing connections, anticipating questions. At the end of the lecture, you should feel as if you’ve had a mental workout! And, you’ll have produced pages that have helped you take control of the material!

Draw a vertical line about 2 1/2 inches from the left edge of a piece of looseleaf paper. Use the right column for your notes from class--essentially your record of what the instructor says. You may write in outline form if the lecture is clearly divided into sections; try paragraph form if the lecture is not as obviously organized.

Try these techniques as well:

* Write on only one side of the paper. You’ll want that extra space later for review.
* Keep your own observations separate. Use the left column for these ideas so that you don’t confuse them with the professor’s points.
* Label, number, and date all your notes.
* Leave blank space to indicate that you missed some points. You can go back later and fill in after consulting your book, another student, the TA, or the instructor.
* Copy anything that the instructor puts on the board.
* Devise an “I’m lost” symbol to remind yourself that your notes at this point are unfocused.

The left column is for your own observations either during the lecture or when you review your notes within 24 hours. Try using this column to:

* Ask a question about the material.
* Make a connection to something you recall from an earlier class session.
* Make a note that the instructor said that this point was important or would be on the exam.
* Draw a connection to another class you’ve taken or another book you’ve read.
* Make an observation about the importance of the material.

Try concept mapping.

Many students find that constructing visual diagrams of the material is most helpful when reviewing material, but others are able to construct these during lectures. Use drawings to indicate the relationships between key ideas in the lecture.
EFFECTIVE NOTE TAKING . . .
. . . IS NOT OVER WHEN THE CLASS IS OVER.

You’ll retain MUCH more of the material from the class if you reinforce your memory by reviewing the notes with 24 hours of the class. The longer the time between the class and your review, the less you’re likely to remember and the less control you have over the material. The minutes you spend going over the lecture notes will save you hours preparing for the exam.

Just as preparing for the lecture and taking notes from the lecture are active processes, so is review. DON’T just skim or “read over” your notes.

Try these strategies:

Read your notes aloud. Hearing them as well as seeing them will reinforce your memory. And, if you hear something that you don’t understand, you’ll know that this section needs more attention.

Fill in the sections that you left blank and clarify the “I’m lost” sections.

Color code notes. Highlight key terms or phrases. Underline or star main ideas.

Create concept map summaries. Use the blank, left page of your looseleaf pages so that all of your notes for this class are together.

Fill in the left column of your Cornell notes. Note key words or concepts, define terms that you realize are important now that you have heard the lecture.

Make note cards or lists of key points to use later for quick reviews.

Review weekly.

The more you examine your notes, the more you will be able to draw connections between old and new material.
### BIORHYTHMS (UNDERLINE MAJOR TOPICS)

What are the **3 main cycles**?

1. **Physical cycle**
   - 23 days long
   - (INDENT DETAILS)
   - strength, disease, etc.

2. **Emotional cycle**
   - 28 days long
   - creativity, sensitivity, mental health, etc.

3. **Intellectual cycle**
   - 33 days
   - memory, alertness, etc.

### CRITICAL DAYS

Define **“critical days”**

- when 1 or more rhythms cross baseline
- chance for colds, disease, accidents

**“jet lag”**

- “jet lag” comes from inability of internal rhythms to adjust to abrupt time zone changes
- happens only on E-W flights across time zones
- not on N-S flights

How can it be compensated for?

- some companies & governments send people to trans-continental mtngs. early, so they can recover and operate “normally”

### INTERRUPTED RHYTHMS

What causes **“jet lag”**?

- “jet lag” comes from inability of internal rhythms to adjust to abrupt time zone changes
- happens only on E-W flights across time zones
- not on N-S flights

How can it be compensated for?

- some companies & governments send people to trans-continental mtngs. early, so they can recover and operate “normally”

### SUMMARY:

Biorythms can affect how we think, feel and behave, especially on critical days.
Within 24 hours of taking notes, spend five minutes editing them.

1. Read over your notes to be sure you will be able to decipher them easily weeks or months from now. Write out words that are unclear and be sure all abbreviations are understandable.

2. Add new words or phrases if they add to clarity. You may want to fill in a detail or example to help you better grasp a principle, or look up and write out the definition of a word of which you are unsure.

3. Underline, star, or circle to emphasize important points. Use boxes or arrows to group related items; tie several minor points together if they make a major point. Relationships and importance sometimes aren’t apparent during a lecture, but become evident as you edit.

4. Write key words in the recall or summary column at the left to assist later review and self-testing.

**REWARDS**

1. You are six or seven times more likely to recall any idea you have WRITTEN OUT.

2. Students who take AND REVIEW notes weekly are four to five times more likely to recall lecture information during an exam.

3. Focused, systematic note taking is your single greatest aid to CONCENTRATION during a lecture and to successful TEST PREPARATION later.
# Linear Programming

**Linear Function**
- Objective Function: Maximum or Minimum of some linear function subject to linear inequalities.

**Linear Inequalities**
- Constraints: In Linear Programming problems, *x* and *y* are generally not negative.

## Steps for Solving LP Problems

| EXAMPLES | p 302 # 42 |

1. **Determine Your Variables**
   - Let *x* = # of ounces per food M
   - Let *y* = # of ounces per food N

2. **Write Relevant Info About X + Y in a Table**
   - Calcium: 30 10 300
   - Iron: 10 10 160
   - Vitamin A: 10 20 240
   - Cholesterol: 9 4

3. **Determine the Objective Function**
   - Objective Function: Minimize \( C = 8x + 4y \)

4. **Write Constraints**
   - Subject to:
     - Using Linear Inequalities:
       - \( 30x + 10y \geq 300 \)
       - \( 10x + 10y \geq 160 \)
     - Or Equations:
       - \( 10x + 30y = 240 \)
       - \( x \geq 0, y \geq 0 \)
AFTER YOU’VE SET-UP
MAXIMIZE \( P = 3x + 5y \)
AN LP PROBLEM, YOU
SUBJECT TO \( 2x + y \leq 10 \)
CAN SOLVE IT -
\( x + 2y \leq 8 \)
\( x, y \geq 0 \)

1. SKETCH AND SHADE
REGION

2. LABEL CORNER
POINTS

FIND POINTS FOR
\( 2x + y = 10 \)
\( x + 2y = 8 \)

GRAPH BY PLUGGING
\( x \quad y \quad x \quad y \)
\( 5 \quad 0 \quad 8 \quad 0 \)

FOR BOTH \( x + y \)
\( 0 \quad 10 \quad 0 \quad 4 \)

3. MAXIMIZE
\( P = 3x + 5y \)

* MAKE TABLE OF
CORNER POINTS
\( 0 \quad 0 \quad 0 \)
\( 4 \quad 2 \quad 22 \)
(4, 2)

* PLUG \( x + y \) INTO
\( 3x + 5y \)
\( 5 \quad 0 \quad 15 \)