



## SCS Academic Advising Keys to Success in Science Courses at the University of Illinois at Urbana-Champaign

### Suggestions for Academic Success

- Attend every lecture
  - Read the text material before lecture and take thorough lecture notes
  - As soon as possible after lecture, rewrite and/or review your notes, rework example problems and write notes to yourself in the margins
- Do the assigned reading in an active, not a passive fashion
  - Always read the book with paper and pencil ready
  - Work through example problems as they arise and do some sample exercises in each section
  - Make notes on material that you want to ask questions about later
  - Diligently try to solve problems before asking for assistance
- Begin the problem sets as soon as they are assigned
  - Aggressively tackle problems after you have reviewed the relevant material
  - Do NOT look at the solution to a problem until you have worked on it seriously (could be as much as 20 minutes!)
  - The best preparation for exams is working problems through to their completion without having to refer to your notes or the text
- Utilize tutoring services and TA and professor office hours productively
  - Attend office hours regularly, ~once/week
  - Keep in mind that the tutor and TAs are there to help you work through problems, not give you the answers
  - Bring your work to the help session so that someone can show you where you went wrong
- Support people may ask you questions to help you solve the problem. Begin preparing for exams early
  - Keep your notes organized, your quizzes handy and constantly review material
  - Index cards with important formulas and information may be helpful
  - You can pull them out to review at any time
  - Don't leave papers to the last minute
  - Research topics beforehand
  - Create an outline
  - Support people may ask you questions to help you solve the problem
- STUDY, STUDY, STUDY
  - Be proactive, not reactive and seek help at the first sign of struggle
  - You should be spending approximately 3 or more hours of study time for every hour you spend in class
  - This isn't counting laboratories
  - Therefore, plan to spend around 9+ hours (some weeks will be more) on physical science and math classes each week
- Two Types of Learning
  - Rote Learning - Involves verbatim memorization, Easily forgotten. Cannot be manipulated or copied to novel situations e.g. remembering phone numbers, dates, name, etc.
  - Meaningful Learning - Learning that is tied and related to previous knowledge and integrated with previous learning, can be manipulated, applied to novel situations and used in problem solving tasks. Meaningful learning is a continuous, ongoing process; repetition is the key

Special thanks to Gretchen Adams who provided much of this material.

## School of Chemical Sciences Tutoring Options and Study Skills

<http://publish.illinois.edu/scsadvicing/student-resources/tutoring/>

<http://publish.illinois.edu/scsadvicing/files/2013/10/SCS-Study-guide.pdf>

## Study Strategies

The Study Cycle with Intense Study Sessions

**Phase 1:** Read or preview chapters to be covered in class... before class. Read the headings, bolded words, look at the pictures and graphs. What are some questions you have?

**Phase 2:** Go to Class. Listen actively, take notes (“Answering those questions you made from above”), participate in class.

**Phase 3:** Review and process class notes as soon as possible after class (within a few hours)

**Phase 4:** Incorporate Intense Study Sessions

**Repeat**

### Metacognition –

Study to learn, not to make the grade!

The ability to:

- Think about thinking (know about knowing)
- be consciously aware of oneself as a problem solver
- to monitor and control one’s mental processing
- use appropriate learning strategies
- Have a growth mindset vs. a fixed mindset

### Exams - Hints

Spend enough time reviewing and mastering material

Aim for 100% mastery

Use study sessions for clarification

Use the Study Cycle with Intense Study Sessions

Use TAs, peers and instructors for help if you do not understand how to solve a problem

Remember to put your short and long term goals first

When you make an appointment with yourself to study, KEEP IT!

## Intense Study Sessions

### 2-5 minutes:

- Set Goals for next 40 minutes

### 30-40 Minutes:

- Read text more; Selectively highlight
- Make notes in margins
- Try working on example problems on your own before looking at solution; compare methods
- Work on homework problem/lab

### 5 minutes:

- Review what you have just studied

### 10 Minutes:

- Take a break

## Repeat!

### SCS Academic Advisors

Elaina Bielser, SCS Academic Advisor, 217-244-8531 [ebielser@illinois.edu](mailto:ebielser@illinois.edu)

Suzi Blanco, SCS Academic Advisor, 217-244-0265 [sblanco2@illinois.edu](mailto:sblanco2@illinois.edu)

Todd Spinner, SCS Academic Advisor, 217-244-6605 [spinner@illinois.edu](mailto:spinner@illinois.edu)