It's Always Midterm Season:

Study Strategies for Maximizing Your Performance on Exams in STEM

Next Generation Science Programs
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nextgenscience@dornsife.usc.edu
What is Next Generation Science Programs?

USC Dornsife’s Next Generation Science Program aims to increase engagement, participation, equity, and inclusion in the natural sciences at USC. We strive to provide access to academic support and immersive experiential opportunities that further encourage students of all backgrounds to fully engage and thrive in the USC science community.
Study Tips from your SI Leaders

Andrew Vu (CHEM 115)  Dominic Pak
(BISC 120)
Agenda

- About Us
- How do I create a study schedule?
- How can I know what to study?
- How can Supplemental Instruction (SI) help?
- Tips for Exams
- Tips for Your BISC/CHEM Courses
About Us

Andrew (CHEM 115)
- **Class:** Senior
- **Major:** Molecular Biology, BS and Spanish, BA
- **Hometown:** Chatsworth, CA
- **Involvements:** Trojan Knights and Chess Club
- **Research Interests:** Cancer epigenetics and Next Generation Sequencing @ the Rhie Lab

Dominic (BISC 120)
- **Class:** Senior
- **Major:** Environmental Science and Health, BS, and Global Medicine, MS
- **Hometown:** Whittier, CA
- **Involvements:** AED, LSM, Peer Advisor at Pre-Health Office, Dornsife Ambassadors, CHLA Volunteer
- **Research Interests:** Community engaged, environmental public health research (EH MATTERs Program – Aung Lab)
How do I create a study schedule?
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- Let’s say you have your second midterm exam for BISC 404 on Thursday (totally not based on a real scenario).

- How do you prepare?
Andrew

- Mark it on my calendar and notes app, then divide a certain amount of days to studying for it:
- Make sure to stay on track! That’s while keeping up with other classes too.

**BISC 404**
- [DAILY] Midterm Thursday

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How do I know what to study?
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**Problem-Based Exams**
- Lots of problems to solve
- Classes like CHEM 105, CHEM 322, PHYS 135, MATH 125.
- Do as much practice as possible.
- Do not neglect content, so review your lectures.
- Know your equations.

**Multiple Choice/Fill In Exams**
- Lots of content to memorize and understand, as some problems may be applied.
- Classes like BISC 120, BISC 312/320, BISC 325, PSYC 100.
- Memorize using flashcards.
- Divide up studying more than you would.
- Use study groups with classmates to explain concepts to each other.
How do I know what to study?

Open Note Exams
- Sometimes online; you’ll have your notes but limited time to use them
- Classes like QBIO 305 and PSYC 274
- Still study as you would a regular exam.
- Organize your notes and do practice problems with them so that you get used to accessing them.
Flashcards

Can even make flashcards for concepts/problems you miss on practice exams or quizzes!!
Practice Problems

Practice Exam 8

1. Complete the reactions below by drawing major product or products. Indicate product stereochemistry where appropriate. Do not draw mechanisms or minor products.

   a. [Chemical structure diagram]

1. Lewis Structures, VSEPR, and Polarity

   a. Draw the Lewis Structure and give i. molecular geometries, ii. formal charges, iii. bond angles, and iv. identify whether the molecule has a dipole moment:

   i. BrF$_2^-$ 
   ii. BeCl$_2$
How can Supplemental Instruction (SI) help?
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**Supplemental Instruction**
- Free program offered by USC Dornsife for most science courses
- SI Leaders will lead weekly review sessions and exam reviews before every midterm
- Great way to keep track with concepts, prepare for exams, and even get mentorship
  - SI Leaders review their worksheets with professors!
Tips for Maximizing SI

- Keep up with lectures and attend SI sessions regularly.
- Use SI sessions to review and clarify any challenging concepts.
- Mark each exam review session on your calendar.
- Prior to the exam review, study the content to ensure you know it coming in.
- After the exam review, focus on concepts that were particularly difficult.
- Don't hesitate to email your SI Leader if you have questions or need additional assistance.
Tips for Before, During, and After your Exams
Before your exam:

- Journal/bullet point/free write about your feelings about the exam and your performance
- Try to finish your content review 2 days before exam day
- Keep a list of topics that you know VERY WELL, KIND OF, and NOT AT ALL
  - Aim to have everything in VERY WELL, before your exam
  - Use the day before the exam to review the KIND OF and NOT AT ALL
- Practice affirmations – convince yourself of your capability!
  - Confidence and mindset can drastically change your performance
- Give your brain a break ~an hour before your exam
- Get a GOOD NIGHT'S REST
During your exam:

- Skip what you don’t know and come back!
  - When you come back:
    - Eliminate what you can
    - Make educated guess – use related information as much as possible
- Close your eyes, take a few deep breaths, and try not to panic
- Use your learning/study styles to your advantage:
  - Mind maps
  - Hand gestures
  - Flashcards
  - Diagrams
  - Flowcharts
After your exam:

- Immediately after:
  - Gauge your feelings about your performance – important for later
- Forget that it happened, pat yourself on the back, and **treat yourself!** (do a dance, snacks, friends, adventures, etc.)
- After a day or two/when scores are out:
  - Review your exam and each incorrect answer:
    - Assess why you got it wrong
  - Gauge your expectations vs. your grade
  - How do you feel about this? Sit with your feelings
- Adjust your study schedule if necessary
  - Reach out to SI leaders, professors, and friends
Tips for Your BISC/CHEM Courses
Tips for Intro CHEM/BISC and Beyond

- If you can teach the concepts, you know them! Grab a friend and take turns explaining
- Write sample test questions
  - Try to view the content from the Professor/exam writer's perspective
- BISC: Highly memory-based so start studying early
  - Consistency is key!
- CHEM: Practice problem based, so make sure to keep up with the homework and do all sample exams, SI worksheets.
- Ask questions or seek answers as soon as a misunderstanding arises
- Figure out what kind of learner you are
- Be gracious and kind to yourself!
Questions?