

Student Handbook
Department of Mathematics and Statistics
South Dakota State University
Revised 9/2/09

Where to go for help:

Department Head: Dr. Kurt Cogswell 605-688-6196 kurt.cogswell@sdstate.edu

Answers questions about: Concentration options, internships, department related problems that are not resolved satisfactorily with the Undergraduate Program Coordinator

Undergraduate Program Coordinator: Dr. Donna Flint 605-688-6203 donna.flint@sdstate.edu

Answers questions about: scheduling, course quality, advising, transfer requests, other department related problems

Graduate Program Coordinator: Dr. Don Vestal 605-688-5426 donald.vestal@sdstate.edu

Answers questions about: preparation and applying for graduate school

Your Advisor: _____

Answers questions about: scheduling your courses and other academic work, possibilities for your career goals, problems with courses, scholarships, internships, REU's, graduate school, personal issues

Things you should know as a Mathematics Student

1. Go to class every day and be an active participant. Mathematics is not a spectator sport.
2. For each hour you spend in the classroom, you should be spending 2-3 hours studying outside of the classroom. This does not include the extra time you should spend preparing for a major exam. This time should be spent doing homework, reading the textbook, reviewing older material, and creating study materials for yourself. As you progress to advanced mathematics classes, this time is likely to increase.
3. Check your Jacks e-mail every day. Many faculty members communicate with their class via e-mail. You will also receive valuable e-mails from the department head and others.
4. It is your responsibility to initiate contact with your professors if you are having difficulty in class. Visit the professor during office hours or schedule an appointment. Be prepared to explain specifically what you don't understand or are unable to do and what you have done to try to resolve the problem. Your professors are in their position because they care about student success.
5. The Math Help Center (MHC) is available to help you with math classes through Calculus II. Declaring mathematics as a major does not mean that you will never have a problem in a math class. Take advantage of the MHC before you get lost and frustrated. After you have completed Calculus II, consider applying as a tutor in the MHC. Though there are a limited number of tutors in the MHC, those that tutor claim that as they work with other students, they develop a much stronger mathematical understanding that they can apply to their own work.

6. It is expected that students will create study groups for difficult courses. This is your responsibility. It is also your responsibility to use study groups effectively. This is not an opportunity to split the load (each do some of the problems) but an opportunity to share learning. Working together on homework does not constitute cheating. However, turning in work that you did not ultimately do on your own is cheating and not very valuable to **you**.

What's the difference? Say you work with your group and Jane explains how to do problem 7.

Cheating: You write down what Jane said and turn that in for homework

Not Cheating: After discussing the problem, you do problem 7 again without using the notes you took while listening to Jane.

Which of these helps you when you have to do a similar problem on a test?

7. The time period between semesters should be used to prepare for the next semester. Your professors are encouraged to provide pre-semester homework or practice problems for students. See webpage: <http://learn.sdstate.edu/flintd/course%20prep/mathprep.htm> and material sent to you by your professors. Mathematics is cumulative not only throughout a course, but from course to course. Be ready on the FIRST day of class by refreshing your previous courses regularly.

Things to think about while planning your 4 years as a Mathematics Major:

1. It is *your responsibility* to initiate contact with your advisor regarding your schedule, career goals, and other questions .
2. The on-line catalog is the most up-to-date source for course descriptions and prerequisites. This is found on the main SDSU website under Academics. If you have any questions about the prerequisites for a course, see the instructor of the course.
3. You should begin preparing for the Exit Exam on the first day you arrive on campus as a math major. How can you do this? In your classes, strive for understanding not only of techniques and algorithms, but of the great ideas in Mathematics. Constantly think about how what you are learning today is related to what you learned yesterday. Between semesters, review what you learned in the previous semester and think about how it will be used in the next semester. Keep all your notes and books. Bookmark the Exit Exam Website and when you complete a course, work through the topics and sample problems for that course.
<http://learn.sdstate.edu/flintd/Exit%20Exam/exitexam.htm>
4. You must take Matrix Algebra and Logic and Sets the *fall semester, sophomore year* in order to complete this sequence most efficiently:

Sophomore-Fall	Matrix (215) AND Logic, Sets and Proof (253)
Sophomore-Spring	Linear Algebra (315)
Junior-Fall	Real Analysis I (425) or Abstract Algebra I (413)
Senior-Fall	Abstract Algebra I(413) or Real Analysis I (425)

If you are unable to follow this schedule, talk to your advisor about other ways to complete this sequence.

5. Real Analysis II and Abstract Algebra II are offered on an alternating schedule.

Real Analysis II is offered even Spring (following an odd Fall)

Abstract Algebra is offered odd Spring (following an even Fall).

Students should be able to take both, but may have to take the first and second semesters with a year separating. Students wishing to take these sequentially should plan on taking Abstract Algebra in an even year fall and Real Analysis in an odd year fall.

6. Junior Seminar is not a required course, however it is offered each Fall to help students:

- a. Begin review and design a study plan for review for the Exit Exam
- b. Begin learning about and practicing technical writing

7. Talk to your advisor and Dr. Cogswell about internships and summer jobs that enhance your ability to reach your career goals. Though student teaching is considered an internship, there are other opportunities for future teachers at the State Department of Education, 4-H, and county extension.

8. Consider doing original undergraduate research. Faculty available for undergraduate research opportunities:

- a. Dr. Dan Schaal- Ramsey Theory (Discrete Mathematics)
- b. Dr. Dan Kemp- Geometry and Complex Numbers
- c. Dr. Matt Biesecker- Modeling and Optimization

9. Information specific to Math Majors can be found on the Math Majors d2l account. To register for this account, click on "self registration" on the top right corner of your home page and choose "math_maj." In this d2l account you will find documents you will need as a math major, announcements, and departmental contact information.

10. The base degree plan is included in this handbook. Revisions of this degree plan to reflect coursework for specific career goals can be found on d2l.

11. Your Academic career is more than the classes you take. Other experiences both enhance your college experience and look good on resumes! Participate in and take a leadership role in the Math Club or SDSUCTM (for future teachers). You may choose other campus or off-campus organizations, but participate!

