Math 4442/6442: Modern Algebra II — Summer 2012  
(Section 005, CRN 53082/53083) 
1:50–4:20pm @ Room 002 Aderhold Learning Center (ALC), Tuesday and Thursday

Instructor: Yongwei Yao  
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Office: 766 COE (College of Education)  
Phone: (404)413-6454 (office)

Lecture: 1:50–4:20pm @ Room 002, Aderhold Learning Center (ALC), Tuesday and Thursday.

Office Hours: 12:30–1:30pm Tuesday and Thursday (at 766 COE). Or by appointment.


Course content/outcome: The course offers a solid introduction to ring theory covering its basic and fundamental concepts. The course will emphasize the understanding of the concepts, through examples and proof writing. The course will study algebraic structures through an axiomatic approach. In particular, the course will cover rings, fields, polynomials, Gaussian integers, matrices, homomorphisms, ideals, quotient rings, unique factorization rings, etc. The students passing the course will be able to present the proofs of the majors results as well as apply them in solving routine exercises.

Prerequisites: Math 4441/6441 with a grade of C or higher. During the first two weeks of the semester the Department of Mathematics and Statistics checks the computer records to determine whether or not each student has met the prerequisites for this course. If you do not have the prerequisites please inform your instructor and change to another course. In case the system finds that you don’t have the prerequisites, you need to drop this course. If you miss all the classes during the first two weeks, you will be administratively withdrawn.

Homework: There will be weekly homework assignments that will be graded. You can discuss the problems with your classmates, but the write-up of the solutions has to be done individually according to your own understanding. Identical solutions will not be graded. The assignments as well as the exams for Math 6442 will be more involved than the ones for Math 4442. Show your work/steps. No late homework is accepted. Homework weighs 25% of your overall performance.

Exams: There are two midterm exams and a final exam, all held in Room 002 ALC. On the midterm days, we will cover regular materials for the first half of the lecture (from 1:50pm to 3:05pm).

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm Exam I</td>
<td>June 21 (Thursday), 2012</td>
<td>3:05–4:20pm</td>
<td>002 ALC</td>
<td>25%</td>
</tr>
<tr>
<td>Midterm Exam II</td>
<td>July 05 (Thursday), 2012</td>
<td>3:05–4:20pm</td>
<td>002 ALC</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>July 24 (Tuesday), 2012</td>
<td>1:30–4:00pm</td>
<td>002 ALC</td>
<td>25%</td>
</tr>
</tbody>
</table>

All three exams are required and the final exam is cumulative. Make-up exams will only be allowed in case of extreme emergencies that must be documented, such as medical emergencies. It is the instructor’s role to determine if a specific emergency is a valid one.

(more on the next page)
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Grading Scheme: First the total scores are computed by using the weights as follows:

<table>
<thead>
<tr>
<th>component</th>
<th>Homework</th>
<th>Midterm Exam I</th>
<th>Midterm Exam II</th>
<th>Final Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>overall weight</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Then the letter grades will be assigned as follows:

<table>
<thead>
<tr>
<th>score (%)</th>
<th>97—</th>
<th>93–96</th>
<th>90–92</th>
<th>87–89</th>
<th>83–86</th>
<th>80–82</th>
<th>77–79</th>
<th>70–76</th>
<th>60–69</th>
<th>0–59</th>
</tr>
</thead>
<tbody>
<tr>
<td>grade</td>
<td>A+</td>
<td>A−</td>
<td>B+</td>
<td>B</td>
<td>B−</td>
<td>C+</td>
<td>C</td>
<td>D</td>
<td>F</td>
<td></td>
</tr>
</tbody>
</table>

Attendance: You are expected to attend regularly for the entire period of the class. That is, you are expected to arrive on time and stay for the duration of the class. Attendance will be taken periodically. After five or more absences a student can be withdrawn from this class. In case of an absence, the student is responsible for knowing all the materials covered. See page 64, item 1334 in [http://www.gsu.edu/images/Downloadables/Undergrad_06-07_catalog.pdf](http://www.gsu.edu/images/Downloadables/Undergrad_06-07_catalog.pdf)

Note: Any student who misses all the lectures during the first two weeks can get withdrawn.

Important withdrawal dates:

- Last day to drop a class with full refund: June 8, 2012. You may do this at [GoSolar](http://www.gsu.edu/)
- Last day to withdraw from term length classes and possibly receive a W: June 29, 2012.
- For information about withdrawals, see [http://www.gsu.edu/es/withdrawals.html](http://www.gsu.edu/es/withdrawals.html)

Other Important dates:

- Independence Day: July 4 (Wednesday), 2012
- Last Day of Classes: July 23 (Monday), 2012

Disruptive behavior: Any disruptive behavior will be handled according to the University’s policy on disruptive behavior found at the following site [http://www2.gsu.edu/~wwwdos/codeofconduct_adminpol_a.html](http://www2.gsu.edu/~wwwdos/codeofconduct_adminpol_a.html)

This includes the possibility of withdrawing the student from the class.

Academic (dis)honesty: Academic honesty is expected. Cheating will not be tolerated and will be handled according to the University’s policy on academic honesty found at [http://www.gsu.edu/~wwwdos/codeofconduct_conpol.html](http://www.gsu.edu/~wwwdos/codeofconduct_conpol.html)

which includes academic as well as disciplinary penalties.

Teaching evaluations: Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take time to fill out the online course evaluation.

Disability: Students who wish to request accommodation for a disability may do so by registering with the Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability Services of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which accommodations are sought.

Changes: This course syllabus provides a general plan for the course; deviations may be necessary.

Course URL: [http://www2.gsu.edu/~matyxy/2012Su/math4(6)442.html](http://www2.gsu.edu/~matyxy/2012Su/math4(6)442.html)

Relevant information (homework assignments, etc.) will be posted there as the course progresses.

Welcome aboard!