Math 419 Introduction to Abstract Algebra II  
Spring 2016

• Instructor: Kwangho Choiy  
  – Office: Neckers 283 (Phone: 618-453-6508)  
  – E-mail: kchoiy@siu.edu  
  – Office Hours: Tues 11:30am-3:30pm / Thur 11:30am-01:30pm, or by appointment. Emails are also available.
• Course Website: https://sites.google.com/site/kchoiy/teaching/math-419  
  **Recommended to visit often this website for useful materials, homework assignments, etc.
• Class Meeting: TTh 10:00am - 11:15am in Engineering, A Wing (EGRA) 310
• Course Objectives: Our goal is to learn advanced group theory; basic properties of rings and ideals; field theory. The topics include:
  (1) advanced group theory (Sections 34–37): isomorphic theorems, solvable groups, sylow theorems, etc.
  (2) rings and ideals (Sections 22, 23, 26, 27, 45–47): ring of polynomials, ideals, factor rings, UFD, PID, Euclidean domain, etc.
  (3) field theory (Sections 29–33, 48–56): field extensions, finite fields, Galois theory, insolubility of the quintic, impossibility of trisecting an angle, etc.
  **Our tentative class schedule is available on page 2 below.
• Prerequisites: Math 319 with C or better.
• Grades: The course grade is based on 700 points which are distributed as follows:

<table>
<thead>
<tr>
<th>Homework</th>
<th>150 pts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two mid-term Exams</td>
<td>300 pts</td>
</tr>
<tr>
<td>Final Exam</td>
<td>250 pts</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>700 pts</strong></td>
</tr>
</tbody>
</table>

The final grade will be based on the total score with the following approximate cut-offs:


• Homework: Homework will be given on a weekly basis.
  – Each assignment will be distributed in class and posted on our Course Website above at least a week before they are due. See the tentative assignment schedule on page 2 below.
  – **Homework Policies:** (1) You may be encouraged to discuss ideas on homework questions with me or other students, but, you must write your solutions independently. (2) All additional policies will be stated on each assignment. (3) No late homework will be accepted.
• Exams: There will be two mid-term exams and one final. See the exam schedule on page 2 below.
  – **Exam Policies:** (1) Each exam, its instruction will be announced ahead of time and stated on the exam sheet. (2) All electronic devices including cell phones and tablets must be turned off during exam. (3) There is no make-up exam.

The following coverage and schedule may be subject to change, but they will be confirmed at least one week ahead of time:
  – Exam 1 (in class on 2/18, THUR) covers Sections 22, 23, 26, 27, 34–37
  – Exam 2 (in class on 3/31, THUR) covers Sections 29–31, 33, 45–48
  – Final Exam (10:15am-12:15pm on 5/10, TUES) will be comprehensive: approximately, 40% on Sections 22, 23, 26, 27, 29–31, 33–37, 45–48 (Exam 1 & 2 coverage) and 60% on Sections 49–56, 32.
• **Important Comments:** (1) Class attendance is expected. (2) Reading the sections in the textbook ahead of time is recommended. (3) For general SIU policies and important dates, see “Spring 2016 SIU Syllabus Attachment” on page 3 below (also available at http://pvcaa.siu.edu/).

• **SIU Emergency Procedures:** Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERTs website at www.bert.siu.edu, Department of Safetys website www.dps.siu.edu (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

• **Course Schedule**

  * This is a tentative schedule as of [January 10, 2016]; it may be subject to change.

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday</th>
<th>Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/19 Intro/Sec 34</td>
<td>1/21 Sec 35</td>
</tr>
<tr>
<td>2</td>
<td>1/26 Sec 36</td>
<td>1/28 Sec 37; <em>HW 1 due</em></td>
</tr>
<tr>
<td>3</td>
<td>2/2 Sec 22 (recall 18, 19, 21)</td>
<td>2/4 Sec 23; <em>HW 2 due</em></td>
</tr>
<tr>
<td>4</td>
<td>2/9 Sec 26</td>
<td>2/11 Sec 27; <em>HW 3 due</em></td>
</tr>
<tr>
<td>5</td>
<td>2/16 Review for Exam 1</td>
<td>2/18 Exam 1 (in class; Sec 22, 23, 26, 27, 34–37)</td>
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<tr>
<td>6</td>
<td>2/23 Sec 45</td>
<td>2/25 Sec 46</td>
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<tr>
<td>7</td>
<td>3/1 Sec 47; <em>HW 4 due</em></td>
<td>3/3 Sec 29</td>
</tr>
<tr>
<td>8</td>
<td>3/8 Sec 30; <em>HW 5 due</em></td>
<td>3/10 Sec 31</td>
</tr>
<tr>
<td>9</td>
<td>3/15 No Class</td>
<td>3/17 No Class</td>
</tr>
<tr>
<td>10</td>
<td>3/22 Sec 33</td>
<td>3/24 Sec 48; <em>HW 6 due</em></td>
</tr>
<tr>
<td>12</td>
<td>4/5 Sec 49</td>
<td>4/7 Sec 50</td>
</tr>
<tr>
<td>13</td>
<td>4/12 Sec 51; <em>HW 7 due</em></td>
<td>4/14 Sec 52</td>
</tr>
<tr>
<td>14</td>
<td>4/19 Sec 53; <em>HW 8 due</em></td>
<td>4/21 Sec 54</td>
</tr>
<tr>
<td>15</td>
<td>4/26 Sec 55; <em>HW 9 due</em></td>
<td>4/28 Sec 56</td>
</tr>
<tr>
<td>16</td>
<td>5/3 Sec 32; <em>HW 10 due</em></td>
<td>5/5 Review for Final Exam</td>
</tr>
<tr>
<td>5/10</td>
<td>Final Exam (10:15am-12:15pm; Sec 22, 23, 26, 27, 29–37, 45–56)</td>
<td></td>
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</tbody>
</table>
IMPORTANT DATES *

Semester Class Begins ............................................01/19/2016
Last day to add a class (without instructor permission): .................01/24/2016
Last day to withdraw completely and receive a 100% refund: ..........01/31/2016
Last day to drop a course using SalukiNet: ..........................04/03/2016
Last day to file diploma application (for name to appear in Commencement program): .................................................02/12/2016
Final examinations: ....................................................................................05/09–05/13/2016

Note: For outreach, internet, and short course drop/add dates, visit Registrar’s Academic webpage http://registrar.siu.edu/

SPRING SEMESTER HOLIDAYS

Martin Luther King, Jr.’s Birthday Holiday 01/18/2016
Spring Break 03/12—03/20/2016

WITHDRAWAL POLICY – Undergraduate only

Students who officially register for a session may not withdraw merely by the stopping of attendance. An official withdrawal form needs to be initiated by the student and processed by the University. For the proper procedures to follow when dropping courses and when withdrawing from the University, please visit http://registrar.siu.edu/catalog/undergradcatalog.html

INCOMPLETE POLICY – Undergraduate only

An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a completed grade within one semester following the term in which the course was taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, that is, by no later than the end of the semester following the term in which the course was taken, or graduation, whichever occurs first, the incomplete will be converted to a grade of F and the grade will be computed in the student’s grade point average. For more information please visit: http://registrar.siu.edu/grades/incomplete.html

REPEAT POLICY

An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than two times (two total enrollments) unless otherwise noted in the course description. For students receiving a letter grade of A,B,C,D, or F, the course repetition must occur at Southern Illinois University Carbondale. Only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. See full policy at http://registrar.siu.edu/catalog/undergradcatalog.html

GRADUATE POLICIES

Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please visit http://gradschool.siu.edu/about-us/grad-catalog/index.html

DISABILITY POLICY

Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must come to the DSS to open cases. The process involves interviews, reviews of student-supplied documentation, and completion of Disability Accommodation Agreements.

http://disabilityservices.siu.edu/

PLAGIARISM

Student Conduct Code http://srr.siu.edu/student_conduct_code/

MORRIS LIBRARY HOURS
http://www.library.siu.edu/about

SAFETY AWARENESS FACTS AND EDUCATION

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here: http://safe.siu.edu

SALUKI CARES

The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For Information on Saluki Cares: (618) 453-5714, or siucares@siu.edu, http://salukicares.siu.edu/index.html

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INCLUSIVE EXCELLENCE

SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ is an important part of education as well as an essential preparation for any career. For more information please visit: http://www.inclusivexcelsi.siu.edu/

LEARNING AND SUPPORT SERVICES

Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit the Center for Learning and Support Services website:

Tutoring : http://tutoring.siu.edu/
Math Labs http://math.siu.edu/courses/course-help.php

WRITING CENTER

The Writing Center offers free tutoring services to all SIU students and faculty. To find a Center or Schedule an appointment please visit http://write.siu.edu/

AFFIRMATIVE ACTION & EQUAL OPPORTUNITY

Our office’s main focus is to ensure that the university complies with federal and state equity policies and handles reporting and investigating of discrimination cases. For more information visit: http://diversity.siu.edu/

Additional Resources Available:

SALUKINET: https://salukinet.siu.edu/cp/home/displaylogin
ADVISEMENT: http://advisement.siu.edu/
PROVOST & VICE CHANCELLOR: http://pvcaa.siu.edu/
SIU ONLINE: http://online.siu.edu/