INSTRUCTOR: Tom Wakefield          PHONE: 330-941-1395
OFFICE: 1054 Cushwa               E-MAIL: tpwakefield@ysu.edu

WEB SITE: http://people.ysu.edu/~tpwakefield

OFFICE HOURS: MTWF 10:00-11:00am; Th 4:00-5:00pm; and by appointment


Material to be covered:

Group Theory
1.1 Groups
1.2 Subgroups
1.3 Cyclic Groups
1.4 Permutation Groups
2.1 Cosets
2.2 Homomorphisms
2.3 Normal Subgroups
2.4 Quotient Groups
3.1 Direct Products
3.2 Computing Orders
3.4 Fundamental Theorem of Finite Abelian Groups

Ring Theory
6.1 Rings
6.2 Integral Domains
6.3 Fields

COURSE DESCRIPTION: An introduction to abstract algebra through the investigation of fundamental concepts in group theory and ring theory and the collection of examples and counterexamples.

COURSE OBJECTIVES: The primary objective of this course is to develop the student’s ability to write, read, and understand mathematical definitions, theorems, and proofs. The student should obtain critical thinking and writing skills which will prepare her/him for either a career in a technical field of a first step to eventual graduate study in mathematics.

PREREQUISITES: The prerequisites for this course are Math 3715 and 3720.

PROBLEM SESSIONS: In addition to lectures, a one hour problem session will be held each week. During these sessions, students may ask questions and discuss homework assignments with the instructor and other classmates.

GRADING: Grades will be weighted according to the following scale:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Three Exams</td>
<td>45% (15% each)</td>
</tr>
<tr>
<td>Homework/Quizzes</td>
<td>20%</td>
</tr>
<tr>
<td>Mathematical Writing Project</td>
<td>10%</td>
</tr>
<tr>
<td>Comprehensive Final Exam</td>
<td>25%</td>
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</tbody>
</table>
The following grading scale will be used:

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>100–88</td>
<td>A</td>
</tr>
<tr>
<td>&lt;88–76</td>
<td>B</td>
</tr>
<tr>
<td>&lt;76–64</td>
<td>C</td>
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<tr>
<td>&lt;64–52</td>
<td>D</td>
</tr>
<tr>
<td>&lt;52</td>
<td>F</td>
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</tbody>
</table>

Last day to withdraw with a “W”: Thursday, October 29, 2009.

**EXAMS:** The exam dates will be announced approximately one week in advance, and it is your responsibility to be in class and know when the exams will be given. Missed exams can be made up only in the event of an excused, documented absence. If you are going to miss an exam, call my office and leave a message or send me an e-mail before the exam. Arrangements for a make-up must be made before returning to class. The Final Exam will be comprehensive and given on Tuesday, December 8 from 5:30 PM – 7:30 PM.

**NOTIFICATION of CANCELLED CLASS:** Notice that this class is being cancelled for any one day because of instructor illness, or other reasons, will be sent to the student address @student.ysu.edu as soon as possible.

**QUIZZES and WRITING ASSIGNMENTS:** Quizzes and/or homework assignments will be given weekly. There will be NO make-ups given on quizzes and late homework will NOT be accepted.

**ATTENDANCE:** Regular attendance is necessary and expected. Attendance will be taken daily and will be one of several factors considered in “borderline” cases. If you know ahead of time that you will have an excused absence, please let me know. Although quizzes, writing assignments, and collected homework will not be made up, writing assignments and homework may be turned in early. Quizzes will not be given early. In the event that an excessive number of quizzes or assignments will be missed for legitimate reasons, please discuss the situation with me as early in the course as possible. All students are expected to participate in class. This means coming to class with your homework completed and ready to ask or answer questions.

**CLASSROOM CONDUCT:** Class begins at 5:10 and all students are expected to arrive and be prepared to start class ON TIME. Cell phones, pagers, etc. must be turned off during class.

**STUDENT RESPONSIBILITIES:** Primary responsibility for learning the material in this course lies with the student. Each student is responsible for attending class regularly, carefully completing daily reading and homework assignments, coming to class on time and prepared, and actively participating in class. Any student having trouble with the material is responsible for seeking help from the instructor, tutors, or fellow students. All homework assignments are expected to be completed. There is generally a strong correlation between the amount of effort expended on homework and the level of success on exams. It is expected that reading, studying the text and notes, and writing homework problems will require at least two to three hours per day. Any student who chooses not to fulfill the responsibilities outlined here should not expect to succeed in the course.

**GETTING HELP:** In addition to my scheduled office hours, I am also available at many other times. You are most welcome to drop in at any time. However you may wish to call me or send email to check on my availability if you would like to see me outside of office hours.

**STUDENTS WITH DISABILITIES:** In accordance with University procedure, if you have a documented disability and require accommodations to obtain equal access in this course, please contact the Office of Equal Opportunity and Disability Services at the beginning of the semester or when given an assignment for which an accommodation is required. Students with disabilities must verify
their eligibility through the Office of Disability Service at 36 W. Wood Street (330-941-3370) intake procedure.

**CENTER FOR STUDENT PROGRESS:** The Marion G. Resch Center for Student Progress is a resource on campus established to help students successfully complete their university experience. Please phone 330-941-3538 or visit the Center for assistance in tutoring or for individualized assistance with social and academic success. The main center is located in Kilcawley West under the bookstore. CSP Disability Services is located at 36 W. Wood Street.

**PLAGIARISM AND CHEATING:** Academic honesty is expected. Cheating on exams, plagiarism, or any kind of unethical behavior may subject the student to severe academic penalties, including expulsion. See “The Code: A Handbook of Student Rights, Responsibilities, and Conduct” for more information.

**MATHEMATICS ASSISTANCE CENTER (MAC):** For all your mathematical needs:

- Tutoring
- Solutions Manuals
- Computers
- Study Area

**Mathematics Assistance Center**
Location: Cushwa Hall, Room 3090
Website: [http://www.math.ysu.edu](http://www.math.ysu.edu) (under “Student Services”)
E-mail: mathassist@math.ysu.edu
Phone: 330-941-3274
Hours: Fall/Spring: Monday–Thursday: 9:00am–5:00pm
            Friday: 9:00am–3:00pm

Check for services available for your course.