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**Syllabus: 2010~2011 I (Fall)**  
**Introduction to Algebraic Structures**  
**Math 328-001 (3cr) (LEC 9451)**  
**9:30 ~ 10:25am MWF at ES-306**

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Description: Groups, rings, and fields as organizing ideas. Basic structure theorems. Applications. P: Math 320. (F)

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Professor: Dr. W. JEON (jeonw@uwgb.edu, ES-323G, 465-5023)  
Web: <http://www.uwgb.edu/jeonw>  
Office Hours: 10:30-11:00 M & 10:30-11:30 W,F or by appointment  
Text: *Contemporary Abstract Algebra 7<sup>th</sup> Edition by Joseph A. Gallian*

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Grading Policy: There will be 3 exams (55 minutes each) and the final (120 minutes). There will be 4 exams (60 minutes each) and the final (120 minutes). Your final grade will be weighted according to the following scheme:

$$3 \text{ Midterms: } 300\text{pts (100pts each)} + \text{ Final Exam: } 200\text{pts} = \text{ Total: } 500\text{pts}$$

To be assured of a given letter grade, students need to achieve the following percentages:

A > 92%      AB > 89%      B > 82%      BC > 79%      C > 70%      D >= 60%      F < 60%

Grades WILL NOT be scaled up or down to fit a curve.

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Special Needs: Consistent with the federal law and the policies of the University of Wisconsin, it is the policy of the University of Wisconsin – Green Bay to provide appropriate and necessary accommodations to students with documented physical and learning disabilities. If you anticipate requiring any auxiliary aides or services, you should contact me or the Coordinator of Services For Students With Disabilities at 465-2841/2849 as soon as possible to discuss your needs and arrange for the provision of services.

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Academic Honesty: Academic honesty is expected at all times. Dishonesty will not be tolerated under any circumstances. Any occasion of dishonesty will be dealt with according the University's policies on academic misconduct.

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Note:

1. There will be no homework to be handed in but exam questions will be chosen from homework problems. Homework will be assigned daily.
2. **A make-up test** will be given if a valid reason is provided with **a proper documentation:** illness, pregnancy, family emergency, and active participation in scholarly or athletic events, not oversleeping, hangovers, exhaustion, personal vacations, etc.
3. Three factors can make a difference in resolving border line grades: **attitude, progress, and participation.** It is not enough, however, to salvage poor performances on the exams.
4. If you feel that an error has been made in grading one of your exams, please bring it to my attention. You will have one week following the return of each assignment in which to contest such errors. Be aware though that in order to give partial credit for the work on a specific problem, certain judgment calls must be made. These judgments calls are not subject to debate and are not grounds for requesting a grade change.
5. The final exam **IS** accumulative and will not be returned. 50% of the problems will be chosen from the previous 3 exams and all exams will be returned with sample answers except the final.
6. You can use a **calculator** for exams but it should be used just for checking your answers. You still have to show your work. You can't say that "this calculation is from my calculator."
7. There will be no homework to be handed in but exam problems will be chosen from homework. Homework will be assigned daily.
8. Always bring your textbook. Be aware ahead of time of what is to be discussed in the upcoming lecture by reading the next section to be studied. Spend 10-15 minutes. Some familiarity with the new topic will help you gain more out of the class discussion of new material. Usually, this class is faster than our tentative schedule.

Chapters 1–25 will be covered as time permits and the following is a tentative class schedule:

Week	Date	Material
1	9/3 F, 9/8 W	Chapter 0. Preliminaries
2	9/10 F	Chapter 1. Introduction to Groups
3	9/13 M, 9/15 W	Chapter 2. Groups
	9/17 F	Chapter 3. Finite Groups; Subgroups
4	9/20 M, 9/22 W	Chapter 4. Cyclic Groups
	9/24 F	Chapter 5. Permutation Groups
5	9/27 M	<b>Exam I (Chapter 0–5)</b>
	9/29 W, 10/1 F	Chapter 6. Isomorphisms
6	10/4 M	Chapter 7. Cosets and Lagrange's Theorem
	10/6 W, 10/8 F	Chapter 8. External Direct Products
7	10/11 M	Chapter 9. Normal Subgroups and Factor Groups
	10/13 W	Chapter 10. Group Homomorphisms
8	10/15 M	<b>No Class</b>
	10/18 M, 10/20 W	Chapter 11. Fundamental Theorem of Finite Abelian Groups
	10/22 F	<b>Exam II (Chapter 6–11)</b>
9	10/25 M, 10/27 W	Chapter 12. Introduction to Rings
	10/29 F	Chapter 13. Integral Domains
10	11/1 M, 11/3 W	Chapter 14. Ideals and Factor Rings
	11/5 F	Chapter 15. Ring Homomorphisms
11	11/8 M, 11/10 W	Chapter 16. Polynomial Rings
	11/12 F	Chapter 17. Factorization of Polynomials
12	11/15 M	<b>Exam III (Chapter 12–17)</b>
	11/17 W, 11/19 F	Chapter 18. Divisibility in Integral Domains
13	11/22 M	Chapter 19. Vector Spaces
	11/24 W	<b>No Class</b>
	11/26 F	<b>Thanksgiving Recess</b>
14	11/29 M, 12/1 W	Chapter 20. Extension Fields
	12/3 F	Chapter 21. Algebraic Extensions
15	12/6 M, 12/8 W	Chapter 22. Finite Fields
16	12/10 F, 12/13 M	Chapter 23. Geometric Constructions
	12/17 F	<b>Final: 8am–10am (50% (Exam I–III))+50% (Chapter 18–23)</b>