

Math 419 Syllabus, Fall 2009

MW 5:30 – 6:50 P243

Instructor: Tom Zerger

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Office Hours: MW 4:20 - 5:20, TR 9:30 - 10:20, Other times by appointment

Text : *Applied Algebra, Codes, Ciphers, and Discrete Algorithms, 2nd edition* by Hardy, Richman, and Walker, 2009, Taylor and Francis Group

Course Content: Selected sections of chapters 1-11 as well as additional topics as time permits. An introduction to abstract algebraic tools that are useful for applications. Topics covered include the structure of integers, groups, finite fields and their polynomial rings, and their applications to the construction of error correcting codes, public key crypto-systems and security, and finite state machines.

Academic Integrity: Work that is turned in for an individual grade should be your work. From the SVSU Code of Student Conduct 1.8.1 : "No student shall cheat, plagiarize or facilitate academic dishonesty by another student. Students are responsible for completing all assigned academic work without unauthorized aid of any kind." If you have any questions about what constitutes academic dishonesty, please ask me and/or see the [academic integrity](#) website.

Grading: There will be *two exams* (200 points each) and a *final exam* (250 points). There will also be an additional 150 "*homework*" points consisting of individual and group assignments - including computer labs(Maple or MuPAD), and quizzes. There will be a 100 point [research project](#) that will be done in groups. There will be NO make-ups on missed "homework" assignments -- the two lowest "homework" scores will be dropped.

Grading Scale: There are a total of 900 points.

Grade	A	A-	B+	B	B-	C+	C	D	F
Points	837-900	810-836	783-809	747-782	720-746	693-719	630-692	540-629	000-539
Percent	93-100	90-<93	87-<90	83-<87	80-<83	77-<80	70-<77	60-<70	00-<60

Tentative Schedule:

(P1..P5 refer to [Project due dates](#))

Week	Date	Monday	Wednesday
1	Aug 31, Sept2	1.1-1.4	2.1-2.2
2	Sept 7, 9	No Class	3.1,3.2
3	Sept 14,16	3.3, 3.4 (P1)	3.5, 4.1
4	Sept 21, 23	4.2, 4.3	4.4, 4.6
5	Sept 28, 30	5.1, 5.2	Exam 1 (chpts 1-4)
6	Oct 5, 7	5.3, 5.4	6.1, 6.2 (P2)
7	Oct 12,14	6.3, 6.4	6.5, 7.1
8	Oct 19, 21	7.2, 7.3	7.4, 7.5
9	Oct 26, 28	8.1, 8.2	8.3, 8.4 (P3)
10	Nov 2, 4	8.5, 9.1	9.2, 9.3
11	Nov 9, 11	Exam 2 (chpts 5-8)	9.4, 9.5
12	Nov 16, 18	9.6, 9.7	10.1, 10.2
13	Nov 23, 25	10.3, 11.1 (P4)	No Class
14	Nov 30, Dec 2	Elliptic Curves	Elliptic Curves
15	Dec 7, 9	P5, review	P5, review
16	Dec 14, 16	No Class	Final Exam (comprehensive)

Important Dates:

- Last day to withdraw with a “W” grade: October 30
- Last day to withdraw with a “WP” or “WF”: November 13
- Others [here](#)