

SYLLABUS: MATH 391--MANIPULATIVES IN MATHEMATICS
WINTER TERM 2005

Professor: Dr. Klay Kruczek
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<u>CLASS MEETS</u> AA 101 3 - 4:50 p.m. MW
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Dr. Kruczek's
OFFICE HOURS & SCHEDULE

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 10	<i>Office Hour</i>	<i>Office Hour</i>	<i>Office Hour</i>	USUALLY	<i>Office Hour</i>
10 - 11	Math 212	Math 212	Math 212	NOT	Math 212
11 - 12		Math 212		ON	
12 - 1	Math 396	Math 396	Math 396	CAMPUS	Math 396
1 - 2	Math 396	Math 396	Math 396		Math 396
2-3	<i>Office Hour</i>		<i>Office Hour</i>		<i>Office Hour</i>
3-5	Math 391		Math 391		

Please feel free to drop by my office during my office hours for help. You do not need to make an appointment to come to office hours. At times other than my listed office hours you are welcome and encouraged to call or email me with questions about the course. If you have direct scheduling conflicts with my office hours and would like further help, please let me know.

COURSE PREREQUISITE

Undergraduates: Math 211, 212 & 213, each with a grade of C- or better. Please see me if you have not taken these courses. Students without permission who have not taken (or transferred in the equivalent of) these three courses WILL BE dropped from Math 391.

Transfer Note: Math 211, 212 & 213 for 12 quarter credits are often equivalent to WOU Math 211, 212, 213 & 391. See Dr. Burton, AA 303.

REQUIRED COURSE MATERIALS:

- "Winter 2005 Course Pack, Math 391" available at the WOU bookstore.
- Large 3-ring binder, *at least* 2.5" or 3".
- 8 3-ring section dividers that can be labeled or that are numbered 1 - 8.

RECOMMENDED RESOURCE BOOKS:

The following are excellent classroom reference books from the "Great Source Education Group," [<http://www.greatsource.com/>]. These books are available in the general book section at the WOU bookstore. If you would like one and do not see it, ask for help! Each book also has a corresponding "Teacher's Resource Book "

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| • Math on Call | • Math to Know | GREAT SOURCE |
| • Math at Hand | • Math to Learn | RESOURCE BOOKS |

COURSE STRUCTURE:

We will work through a variety of class activities and manipulative labs in a small group discussion environment. This work will be followed by various homework assignments and in-class exams. Please see your course schedule for exact details and dates.

COURSE ATTENDANCE & PARTICIPATION:

- Attendance and in-class participation are required. Each day attendance will be taken and your participation in class will be noted.
- Documented (written) excuses for illness, etc. will be accepted for missed classes and/or late work. Notification must be prompt and in advance.

COURSE NOTEBOOK & COURSE ACTIVITIES

- All of your course materials must be kept in a large 3-ring MATH 391¹ binder that is neatly and clearly divided into the following sections. These sections **MUST BE** labeled. The content, purpose and assessment method of each section is described in the following:

Section One: Labs, Activities & Guides

This term we will primarily work on manipulative based, small group, active learning labs & activities in class. These labs & activities will serve as an introduction to modeling basic mathematics with a variety of manipulatives. Labs & activities are designed to be completed in the time frame of our schedule classes and labs. If you do not finish a lab or activity in class, you must complete the unfinished portions as homework. When you complete a lab or activity it will be "checked off". This check off will only note that you have made every effort to complete every portion of the lab or activity. Labs & activities will be checked off prior to or during the corresponding lab material exams (see below for exam details). Any labs or activities that are not completed on time may be checked off at a later date but will be marked late.

¹ Do not keep any materials other than your Math 391 materials in your Math 391 notebook. This notebook must be turned in regularly for grading.

NOTE: Your attendance is required for labs & activities. If you miss a lab or an activity you must make up the work on your own time, with manipulatives. See the manipulative guide, NB S8 to determine how to access the appropriate manipulative.

Section Two: Story Problems

- For each lab you will be required to write and solve several story problems that emphasize the current topic.
- Writing and solving story problems will allow you to connect the mathematical ideas we are exploring in class with real-life situations that are suitable for elementary school students.

Detailed instructions for writing story problems can be found in the handout: "Math 391 Story Problem General Directions". Your problems will be assessed for completion of all assigned components and whether or not your problem asks the correct mathematical statement. See your course schedule for Story Problem due dates.

Section Three: Portfolio Problems

- For each lab you will be required to write up, in careful, thorough, well-explained detail several examples of the types of manipulative modeling problems that we are exploring in class. Each lab will have two portfolio assignments (1.1, 1.2, 2.1, etc.)
- Carefully writing up representations of modeling with manipulatives will be a very important part of your course and is meant to be a lasting reference for you. These write-ups will allow you to demonstrate your knowledge of modeling mathematics with manipulatives through series of careful, well explained pictures.

Detailed instructions for writing portfolio problems and notes on how they will be assessed can be found in the handout: "Math 391 Portfolio General Directions" (course pack).

- To facilitate learning we will have Portfolio Peer Assessment Days in this course (see schedule, course pack). Credit for participating in each of these peer assessment days will be only be given to students who come to class with a complete portfolio draft ready for review on the scheduled peer review day.

Section Four: Journal Reflections & the Book Report

Journal and Web Site Reflections

- Each week you will be assigned outside readings to help familiarize you with resources that are available in teaching related journals. Each reading will be followed by an assigned written evaluation and personal reflection.

Detailed instructions & the assigned journal articles (on reserve at Hamersly Library) can be found in the handouts: "Journal Reflection Directions" and " Journal Required Reading & Follow Up Reflective Writing Assignments." There is also a handout for Web Site Reviews.

Section Four: Journal Reflections & the Book Report continued

Book Report

- The Hamersly Library has all of the state-adopted textbooks for K - 12. This term each of you will be required to go to the K - 12 text section of the library, analyze one text and write one book report.
- This book report will allow you to evaluate and to make connections between the types of problems that you will be teaching and the manipulatives that we are using in lab.

Detailed instructions for your book report and notes on how it will be assessed can be found in the handout: "Math 391 Book Report General Directions" (course pack).

Section Five: Exams

- Each set of labs (1 & 2, 3 & 4, 5 & 6, 7 & 8 & 9) will be followed by an in-class exam. These exams will be multiple choice and will allow you to demonstrate your knowledge of the mathematics and modeling details behind working with manipulatives in mathematics. Review sheets and sample exams are posted on the Math 391 Resource web page.

Section Six Notebook Assessment

Your course pack contains notebook check sheets which are used to check off completed labs & activities during exams. Please see section six of your notebook.

Section Seven: Final Presentation

During the regularly scheduled final exam period each of you will participate in a small group presentation of a fraction or decimal game suitable for an elementary or middle school classroom. Detailed instructions for your final presentation can be found in your course pack.

Section Eight: Manipulatives & Resources

MANIPULATIVES

Most of the manipulatives that we use in lab are available for checkout or for use in the AA 3rd floor lab room. See the Manipulatives Guide in your notebook Section Eight for detailed information.

RESOURCES

Your course notebook has manipulative graph paper and a few interesting handouts about using manipulatives in this section of your notebook.

COURSE GRADE

- Every point in Math 391 is of equal weight. There are a total of 1500 points available in the course.
 - Labs 1, 6 & 7 each have 5 point extra credit assignments
 - You may do up to two 7.5 point extra credit journal assignments.

POINT & PERCENT SUMMARY FOR COURSE			
<i>Notebook S</i>	<i>Category</i>	<i>Point Value</i>	<i>Approximate %</i>
	<u>Attendance</u> Participation&Attendance: 2pt M & W	35	2.3%
1	<u>Lab and Class Activities</u> Lab & Activity completion check-off	105	7.0%
1	Lab Presentation	45	3.0%
2	<u>Story Problems</u> Problem Review	95	6.3%
3	<u>Portfolios Peer Review</u> In Class Portfolio Peer Assessment	70	4.7%
3	<u>Portfolios</u> Portfolio Assignment Write-ups	360	24.0%
4	<u>Journal Reflection & Book Report</u> Reflections & Book Report	130	8.7%
5	<u>Exams</u> 4 <i>individual</i> exams covering 9 labs	460	30.7%
7	<u>Final Presentation</u> Preparation, Presentation& Assessment	200	13.3%
TOTAL		1500	100.0%

STANDARD GRADING SCALE FOR THIS COURSE

(total % for the course, usual rounding rules apply)

%	Grade	%	Grade	%	Grade	%	Grade	%	Grade
93 - 100	A	90 - 92	A-	87 - 89	B+	83 - 86	B	80 - 82	B-
%	Grade	%	Grade	%	Grade	%	Grade	%	Grade
77 - 79	C+	73 - 76	C	70 - 72	C-	60 - 69	D	Below 60	F

MATH 391 RESOURCE WEB PAGE

There will be a links for the Math 391 Resource Web Page at:

<http://www.wou.edu/~kruczekk>

See your course pack for information about the Math 391 resource web page.

APPROPRIATE CLASSROOM BEHAVIOR & ACADEMIC HONESTY

- You are ultimately responsible for your own attendance and performance. Disruptive classroom behavior of any kind is not appropriate. Please be punctual for class.
- In particular for this course:
 - Any student found copying from another student's paper, whether that student is currently enrolled in Math 391 or not, will receive a zero score on that paper.

HOMEWORK DUE TIME AND LATE WORK POLICY

Your work is due by 4:50 p.m. (the end of class) on the due date. All due items may be turned in, unexcused, 1 class day late (by 3:00 p.m.) for 75% credit or 2 class days (by 3:00 p.m.) late for 50% credit. Any item turned in after 4:50 p.m. on a due date will be considered late. There are no exceptions!

LEARNING DISABILITIES

If you have a documented learning disability, please talk to me during the first few days of class, I will be more than happy to accommodate you in any way that I can. If you have a documented disability which requires any academic accommodations, you must go to the Office of Disability Services (ODS) for appropriate coordination of your accommodations. You can drop by APSC 405 or contact ODS at (503) 838-8250 (V,TTY) to schedule an appointment.

INCOMPLETE POLICY

If you are passing this course and have a documented reason for not being able to complete the course, I may be able to grant you an incomplete. You must obtain my agreement if you wish to have a grade of incomplete recorded.

FINAL EXAM ATTENDANCE POLICY

Your final for this course is a final presentation. All students will present on during your regularly scheduled 2-hour final exam period. Attendance during the 2-hour final exam period is mandatory.