

PBIS 187: Problem-based Inquiry Seminar

- Instructor:* Joan E. Hart
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http://www.uwosh.edu/faculty_staff/hartj/
- Office Hours:* M W 1:50 - 2:50 pm
Tues. 12:40 - 1:40 pm
You are also welcome to make appointments for other times.
- Course:* Problem-based Inquiry Seminar (PBIS) courses focus on critical thinking. We will analyze and solve problems, not just apply simple recipes or formulas to routine exercises. Our text will help us explore questions such as “Just how likely are we to win the lottery?”. Taming Uncertainty, Deciding Wisely, Number Contemplation, and Geometric Gems name some of the chapters we’ll study. Credit: 3 sem. hrs.
- Text:* *The Heart of Mathematics*, 2nd edition (2005), Edward Burger & Michael Starbird Key College Publishing, http://www.heartofmath.com/surfing_the_book/index.php
We will cover selected topics from chapters 1 through 8.
- Calculators:* Department policy allows the use of TI-83 Plus calculators on exams; more powerful machines, including the TI-89 and TI-92, may **not** be used; machines having a built-in USB port, including the T-84 Plus, may **not** be used. Cell phone calculators may **not** be used.
- Course Structure:*
Daily homework
3 quizzes
4 collected problem sets
3 exams, each 60 minutes long
- Grading:* 2 quizzes = $\frac{1}{2}$ an exam
The quiz during which you feel the worst is dropped.
3 problem sets = 1 exam
The problem set due when you feel the worst is dropped.
3 exams
A = 90-100% of the total points, B = 80-89%, C = 70-79%, D = 60-69%
- Make-Ups:* **NO** make-ups for quizzes. **NO** make-ups for exams will be given unless I have agreed to give you one **before** the scheduled exam time.
- Problem sets:* **NO** late problem sets will be accepted.
- Attendance:* A passing grade normally requires attendance at no fewer than 80% of the classes held.

- Goals:*
- To improve your abilities to solve problems.
 - To understand the main concepts of the course well enough to explain them to a younger sibling.
 - To learn to communicate mathematics. You should be able to
 - (1) learn mathematics by reading materials such as your textbook;
 - (2) write coherent, complete, and logically organized solutions to problems, including those in your homework;
 - (3) learn mathematics by discussing it with friends, classmates, and me.

Study suggestions:

Plan to *spend at least six hours per week outside of class* studying *Hearty* problems and ideas. Before each class, read the section of the text to be covered. Between each class and the next, review your notes and work any assigned Mindscapes. We will go over questions from them in class, but you will benefit most by working on the problems **before** we give away their punchlines in class. Note problem-solving tips the authors give you. Think about the fundamental ideas and how to apply them. Each exam will contain problems unlike those you have done before, but developing your problem-solving skills and understanding the ideas will enable you to do the problems.

Important Dates:

Note: All exams and quizzes are on Fridays.

All problem sets except #3 are due on Fridays.

<i>Exams:</i>	Exam 1	Oct. 5	
	Exam 2	Nov. 2	
	Exam 3	Dec. 7	
<i>Quizzes:</i>	Quiz 1	Sept. 28	
	Quiz 2	Oct. 26	
	Quiz 3	Nov. 30	
<i>Problem sets:</i>	Problem set 1	Sept. 21	
	Problem set 2	Oct. 19	
	Problem set 3	Nov. 19	<i>(Monday)</i>
	Problem set 4	Dec. 14	

“It is what you learn after you know it all that counts.”

John Wooden, *They Call Me Coach*