

IBL Post-Fall 2009 - WSC

Dear student:

This semester, you are registered for a mathematics course at Westfield State College.

For extra credit in this course, you are asked to complete an online survey both before the course has started and after it is completed. You are now invited to participate in the end-of-semester portion of the survey. In order to receive this extra credit, please include your name, your school email address and the Course ID at the appropriate place in the survey.

This survey will not affect your grade: Your teacher will not see your answers before grades are submitted and your personal information will be removed before the data is analyzed. It will take you about 10 to 15 minutes to complete the survey.

This survey is part of a broader research program which aims at improving mathematics learning and teaching. This particular survey is focused on learning about students' attitudes and beliefs about learning mathematics. We appreciate your contributions towards this important research program.

By participating in this survey, you agree with the following:

I agree to participate in the survey, which is being conducted by Dr. Christine von Renesse, Dr. Volker Ecke, and Dr. Mairead Greene. I understand that this participation is entirely voluntary; I can withdraw my consent at any time while taking the survey.

The following points have been explained to me:

1. The reason for the research is to improve teaching and learning.
2. The procedures are as follows: I will respond to this multiple choice questionnaire now. Later in the semester, a follow-up survey will be administered. I will respond to that one, as well.
3. The results of this participation will be confidential and will not be released in any individually identifiable form.

Thank you for your candid responses!

Your interest in mathematics

1. HOW LIKELY is it that you will...

	Not at all likely						Extremely likely
Take additional math courses after this course?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Graduate with a college math major?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Graduate with a college math minor?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Study hard for a college math course?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read magazine or newspaper articles related to math?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bring up mathematical ideas in a non-mathematical conversation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in a club or organization related to math?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teach math in the future?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Your enjoyment of mathematics

2. HOW MUCH do you ENJOY...

	No enjoyment						Extreme enjoyment
Working on a challenging mathematical problem?	⌋	⌋	⌋	⌋	⌋	⌋	
Discovering a new mathematical idea?	⌋	⌋	⌋	⌋	⌋	⌋	
Seeing mathematics in everyday life?	⌋	⌋	⌋	⌋	⌋	⌋	
Perceiving beauty in mathematical ideas?	⌋	⌋	⌋	⌋	⌋	⌋	
Using rigorous reasoning in a math problem?	⌋	⌋	⌋	⌋	⌋	⌋	
Thinking about abstract concepts?	⌋	⌋	⌋	⌋	⌋	⌋	
Teaching mathematics to other people?	⌋	⌋	⌋	⌋	⌋	⌋	

Your goals in studying mathematics

3. Below are some goals that students may have in studying mathematics. HOW IMPORTANT is each goal for YOU?

	Not at all important						Extremely important
Learning specific procedures for solving math problems	⌋	⌋	⌋	⌋	⌋	⌋	⌋
Improving your ability to communicate mathematical ideas to others	⌋	⌋	⌋	⌋	⌋	⌋	⌋
Getting a good grade in college mathematics courses	⌋	⌋	⌋	⌋	⌋	⌋	⌋
Memorizing the sets of facts important for doing mathematics	⌋	⌋	⌋	⌋	⌋	⌋	⌋
Making mathematics understandable for other people	⌋	⌋	⌋	⌋	⌋	⌋	⌋
Meeting the requirements for your degree	⌋	⌋	⌋	⌋	⌋	⌋	⌋
Learning to construct convincing mathematical arguments	⌋	⌋	⌋	⌋	⌋	⌋	⌋
Using mathematics as a tool to study other fields	⌋	⌋	⌋	⌋	⌋	⌋	⌋
Learning new ways of thinking	⌋	⌋	⌋	⌋	⌋	⌋	⌋
Applying mathematical thinking outside the university context	⌋	⌋	⌋	⌋	⌋	⌋	⌋

Other goals (please specify)

Your strategies for learning mathematics

4. When you DO MATH, how often do you take each action listed below?

	Very seldom						Very often
Study on your own.	<input type="radio"/>						
Brainstorm with other students.	<input type="radio"/>						
Try to organize or summarize your own ideas.	<input type="radio"/>						
Share problem-solving strategies with other students.	<input type="radio"/>						
Find your own ways of thinking and understanding.	<input type="radio"/>						
Review your work for mistakes or misconceptions.	<input type="radio"/>						
Read the assigned readings.	<input type="radio"/>						
Plan a solving strategy before attacking a problem.	<input type="radio"/>						
Try to find your own way to solve a problem.	<input type="radio"/>						
Check your understanding of what the problem is asking.	<input type="radio"/>						
Use your intuition about what the answer should be.	<input type="radio"/>						
Look for an alternate strategy to solve the problem.	<input type="radio"/>						
Give up when you get stuck.	<input type="radio"/>						
Ask another student for help.	<input type="radio"/>						
Ask the instructor or TA for help.	<input type="radio"/>						

Your preferences for learning mathematics

**5. Indicate how much you agree or disagree:
I learn mathematics BEST when...**

	Strongly disagree							Strongly agree
The instructor lectures.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
The class critiques other students' solutions.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
I work on problems in a small group.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
The exams let me prove my mathematical skills.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
Groups present their solutions in class.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
The instructor explains the solutions to problems.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
The homework assignments are similar to the examples considered in class.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
I study my class notes.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
I can compare my math knowledge with other students.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
I explain ideas to other students.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏
I get frequent feedback on my mathematical thinking.	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏

**6. Indicate how much you agree or disagree:
In order to solve a challenging math problem, I NEED...**

	Not at all						Very much
To carefully analyze different possible solutions.	<input type="radio"/>						
To have lots of practice in solving similar problems.	<input type="radio"/>						
To understand other students' mathematical thinking.	<input type="radio"/>						
To have natural talent for mathematics.	<input type="radio"/>						
To try multiple approaches to constructing a solution.	<input type="radio"/>						
To remember a lot of examples that I might use in constructing a solution.	<input type="radio"/>						
To use rigorous reasoning.	<input type="radio"/>						
To have freedom to do the problem in my own way.	<input type="radio"/>						
To work hard	<input type="radio"/>						

Feelings and Confidence

7. Indicate how much you agree or disagree:

	Not at all						Very much
I dislike mathematics.	<input type="radio"/>						
I have a positive attitude about mathematics.	<input type="radio"/>						
I am scared of mathematics.	<input type="radio"/>						
I think I will enjoy this course.	<input type="radio"/>						
I am confident on doing mathematics.	<input type="radio"/>						
I think I have below mathematical ability.	<input type="radio"/>						

Your experience and views about mathematical proof

8. Have you had math classes that included mathematical proofs?

yes

no (Go directly to question 9)

9. The following statements reflect some students' views about mathematical proof. How much do you AGREE or DISAGREE with each statement?

	Strongly disagree				Strongly agree			
The main purpose of proof is to confirm the truth of a mathematical result that is already known to be true.	<input type="radio"/>							
Proof is a tool for understanding mathematical ideas.	<input type="radio"/>							
Doing proofs well requires good recall of previous proofs of similar statements.	<input type="radio"/>							
The main purpose of proof is to explain why a certain statement is true.	<input type="radio"/>							
In math class, doing proofs means confirming conjectures that have been previously proven by an expert.	<input type="radio"/>							
There are several different ways to prove a mathematical statement.	<input type="radio"/>							
When evaluating a proof, the most important thing to look at is its logical structure.	<input type="radio"/>							
A proof is something you have to construct based on your own understanding.	<input type="radio"/>							

The course as a whole

10. HOW MUCH did the following aspects of the class HELP YOUR LEARNING?

	No help	A little help	Moderate help	Much help	Great help	NOT APPLICABLE
The overall approach to teaching and learning in the course	<input type="radio"/>					
How class topics, activities, & assignments fit together	<input type="radio"/>					
The pace of the class	<input type="radio"/>					
The workload of the class	<input type="radio"/>					
The general atmosphere of the class	<input type="radio"/>					
The course material	<input type="radio"/>					
The mental stretch required of you	<input type="radio"/>					
The information you were given about the class when it began	<input type="radio"/>					

Other (please specify)

Class activities

11. HOW MUCH did the following CLASS activities HELP YOUR LEARNING?

	No help	A little help	Moderate help	Much help	Great help	DID NOT HAPPEN
Listening to lectures	<input type="radio"/>					
Studying on your own	<input type="radio"/>					
Participating in class discussions	<input type="radio"/>					
Participating in group work during class	<input type="radio"/>					
Explaining your work to other students	<input type="radio"/>					
Hearing other students explain their work	<input type="radio"/>					
Giving presentations in front of class	<input type="radio"/>					
Writing solutions to problems	<input type="radio"/>					
Checking solutions to problems	<input type="radio"/>					
Working on a computer	<input type="radio"/>					
Examining children's mathematical work	<input type="radio"/>					

12. Please comment on how this class has CHANGED THE WAYS YOU LEARN mathematics?

Assignments and tests

13. HOW MUCH did the assignments and tests HELP YOUR LEARNING?

	No help	A little help	Moderate help	Much help	Great help	DID NOT HAPPEN
Taking tests	<input type="radio"/>					
Doing other assignments	<input type="radio"/>					
Doing homework	<input type="radio"/>					
The fit between class content and tests	<input type="radio"/>					
The match between the grading system and what you needed to work on	<input type="radio"/>					
The mental stretch required on tests	<input type="radio"/>					
Preparing class presentations	<input type="radio"/>					
The feedback you received on your written work	<input type="radio"/>					

Support for you as a learner

14. HOW MUCH did each of the following HELP YOUR LEARNING?

	No help	A little help	Moderate help	Much help	Great help	DID NOT HAPPEN
Interacting with the instructor DURING class	<input type="radio"/>					
Interacting with the instructor OUTSIDE class	<input type="radio"/>					
Interacting with teaching assistants DURING class	<input type="radio"/>					
Interacting with teaching assistants OUTSIDE class	<input type="radio"/>					
Working with peers DURING class	<input type="radio"/>					
Working with peers OUTSIDE class	<input type="radio"/>					

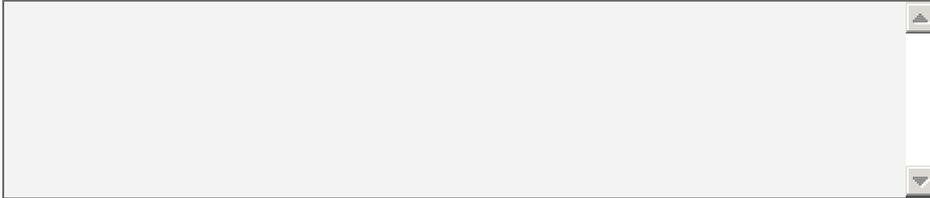
Your understanding of class content

15. As a result of your work in this class, what GAINS did you make in your UNDERSTANDING of each of the following?

	No gain	A little gain	Moderate gain	Good gain	Great gain	NOT APPLICABLE
The main concepts explored in this class	<input type="radio"/>					
The relationships among the main concepts	<input type="radio"/>					
Your own ways of mathematical thinking	<input type="radio"/>					
How mathematicians think and work	<input type="radio"/>					
How ideas from this class relate to ideas outside mathematics	<input type="radio"/>					
How children solve mathematical problems	<input type="radio"/>					
How to make mathematics understandable for other people	<input type="radio"/>					

Please comment on how YOUR UNDERSTANDING OF MATHEMATICS has changed as a result of this class.

16. Please comment on how THE WAY THIS CLASS WAS TAUGHT affects your ability to REMEMBER key ideas.



Confidence, attitudes and abilities

17. As a result of your work in this class, what GAINS did you make in the following?

	No gain	A little gain	Moderate gain	Good gain	Great gain	NOT APPLICABLE
Confidence that you can do mathematics	<input type="radio"/>					
Comfort in working with complex mathematical ideas	<input type="radio"/>					
Development of a positive attitude about learning mathematics	<input type="radio"/>					
Ability to work on your own	<input type="radio"/>					
Ability to organize your work and time	<input type="radio"/>					
Appreciation of mathematical thinking	<input type="radio"/>					
Comfort in communicating about mathematics	<input type="radio"/>					
Confidence that you will remember what you have learned in this class	<input type="radio"/>					
Persistence in solving problems	<input type="radio"/>					
Willingness to seek help from others	<input type="radio"/>					
Comfort in teaching mathematics	<input type="radio"/>					
Ability to work well with others	<input type="radio"/>					
Appreciation of different perspectives	<input type="radio"/>					
Ability to stretch your own mathematical capacity	<input type="radio"/>					

18. What will you CARRY WITH YOU from this class into other classes or other aspects of your life?

Your expectation

19. What grade do you expect to receive in this course?

A

C+

A-

C

B+

C-

B

D

B-

F

Your background

20. What is your college major? (Check ALL that apply)

- | | |
|---|---|
| <input type="checkbox"/> Math or Applied Math | <input type="checkbox"/> Computer science |
| <input type="checkbox"/> Physics | <input type="checkbox"/> Other science or technical field |
| <input type="checkbox"/> Chemistry | <input type="checkbox"/> Economics |
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Other non-science field |

21. Are you pursuing a teaching certification?

- no
- yes, elementary (grades K-6 or K-8)
- yes, secondary math (grades 6-12, 8-12, or 9-12)
- yes, secondary in a field other than math

Other (please specify)

22. What is your class year?

- First-year
- Sophomore
- Junior
- Senior
- Graduate student
- Other (please specify)

23. What is your gender?

- male
- female

Assign yourself an identifier

On this page, we ask for some information that will enable us to match your survey responses at the beginning and end of your math classes. The information will be unique to you but will not identify you individually.

*** 24. Enter the following data. Please, print neatly.**

LAST two letters of your FIRST NAME

Two-digit DAY OF MONTH of your BIRTHDAY (01 through 31)

FIRST two letters of the STREET you grew up on

LAST two letters of your LAST NAME

Course information

25. If you are a student at Westfield State College, please find your professor(s) and choose your section(s).

Prof. Ecke Prof. von Renesse Prof. Hotchkiss Prof. Jaiclin Prof. Rokicki Prof. Vorwerk

Choose:

<input type="text"/>					
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26. In order to receive extra credit, please enter your name and school email below.

Name:

School email:

Survey completed

Thank you for completing the survey! Your input is important to us, and will help us to help math instructors improve teaching and learning in their courses.

If you have any questions, please contact us:

Volker Ecke, Christine von Renesse, Mairead Greene,
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