

Welcome to PHY 099!

University of Rochester
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Instructor: Dr. Thomas McElmurry
Email: mcelmurry@pas.rochester.edu

Office: B&L 260

Phone: x5-8960

<http://www.pas.rochester.edu/~mcelmurry/phy099/>

Office Hours:

Wednesday 17:00–18:00,

Thursday 11:00–12:00

What is PHY 099?

- PHY 099 is a required course for students who plan to take PHY 121–122 (or 121P–122P).
- Its aim is to ensure that students in those courses have the necessary skills in basic mathematics (algebra, geometry, and trigonometry).

Do I need to take PHY 099?

- If you plan to take PHY 121, PHY 121P, PHY 122, or PHY 122P, then you need to take PHY 099 ...
- ... or one of the following Hajim School courses:
 - BME 101/EAS 101 — Intro to BME
 - CHE 150/EAS 102 — Green Energy
 - AME 140/EAS 103/ECE 140/MUR 141 — Intro to AME
 - ME 104/EAS 104 — The Engineering of Bridges
 - OPT 101/EAS 105 — Intro to Optics

What is PHY 099?

- PHY 099 is a zero-credit-hour course, graded as Credit/No Credit.
- This means that it will not affect your GPA.
- It does not mean that you do not need to take it seriously.
 - (Remember, it's a prerequisite for PHY 121–122!)

What is PHY 099?

- PHY 099 has three main components:
 - The **Basic Math Assessment** (BMA), a pencil-and-paper exam
 - **Mastery-learning** modules using the WeBWork system
 - **Workshops**, an interactive classroom environment for learning, practice, and review
- To receive credit for PHY 099 (and be able to take PHY 121–122), you need to **pass the BMA.**

What topics does PHY 099 cover?

- Broadly speaking ...
 - Algebra
 - Geometry
 - Trigonometry
- These may be combined in ways that you haven't seen before. Often you will need tools and techniques from multiple areas to solve a problem.
- One of the most important problem-solving skills is recognizing which tools are needed for the job.

What is the BMA?

- A pencil-and-paper exam
- No calculators
- 45 minutes
- 15 problems
- 24 points possible
- 16 points needed to pass

When is the BMA?

- You will have up to four opportunities to pass the BMA:
 - Wednesday, September 6
 - Wednesday, October 4
 - Wednesday, November 8
 - Wednesday, December 13
- ... all at 8:00 in B&L 106.
- Apart from these four dates, and today's course overview, we will not meet on Wednesday mornings.

Should I bring my calculator to the BMA?

- No.
- If you do, you will be required to put it away.

Should I bring my cellphone to the BMA?

- No.
- If you do, you will be required to turn it **off**, and **put it away** or **leave it with the proctor**.

When you say “turn it off”, what do you mean?

- I do not mean:
 - Set it to vibrate
 - Set it to silent
 - Set it to airplane mode
- I mean: Turn the power off.
- Do not turn it on until you have handed in your exam.

When you say “put it away”, what do you mean?

- It should be out of sight, in a closed bag.
- Do not take it out until you have handed in your exam.

What about laptops? MP3 players? Smartwatches? ...?

- These too are not allowed.
- Turn them off and put them away.

Okay. Should I bring a pen or pencil
to the BMA?

- Yes, please do.

Tell me more about the BMA.

- You will have 45 minutes.
- There are 15 problems.
- Each problem is worth either 1 or 2 points.
- There are 24 points possible.
- If you score 16 or higher, you pass!
- Four practice tests are available at <http://www.pas.rochester.edu/~mcelmurry/phy099/> .
For best results, try the problems yourself before you look at the solutions.

What happens if I pass the BMA?

- If you score 16 or higher on the BMA, you have completed PHY 099 and you will receive credit.

What happens if I fail the BMA?

- If you score 15 or lower, you will need to retake the BMA (and pass it) in order to receive credit for PHY 099.
- Before you can retake the BMA, you must complete the four WeBWork modules.

WeBWorK? Modules? What's all this?

- A series of online homework sets and quizzes, designed to refresh, sharpen, and enrich your skills in algebra, geometry, and trigonometry, to prepare you for your next attempt at the BMA and for PHY 121–122.
- The PHY 099 WeBWorK consists of a series of four modules.
- You must complete all four before you can retake the BMA.

What's in a module?

- Each module consists of a **homework set** and a **mastery quiz**.
- The homework set has about 20 problems. You have unlimited attempts at each problem until you get them all right.
- When you complete the homework set, you will have access to the mastery quiz.
- The mastery quiz has 6 problems. You have 60 minutes to complete the quiz, and you may submit up to 3 sets of answers during that 60-minute window. You need to score 6/6 in order to pass the quiz.

What if I score less than 6/6?

- You will need to take another version of the quiz.
- Before doing this, you are encouraged to review the problems you got wrong, and try to learn from your mistakes.
- The WeBWork system may require a brief waiting period between quiz versions.
- You may take an unlimited number of versions of each module's quiz, until you pass.

What happens when I pass the quiz?

- When you pass the quiz, you have completed that module and are eligible to begin the next one.
- **Notify me** (in person or by email) that you have passed the quiz, and I will open the next homework set for you. **Unfortunately, WeBWork cannot do this automatically.**
- I will reply as quickly as I can, but probably not instantly. Your understanding is appreciated.

What happens when I finish all the modules?

- When you have completed all the WeBWork (up to and including the Module 4 Quiz), you become eligible to retake the BMA the next time it is offered.
- To avoid misunderstandings, it's a good idea to notify me that you have passed Quiz 4, and I will confirm your eligibility for the BMA.

What are workshops?

- The PHY 099 workshops are an informal classroom environment, where you can work on WeBWork problems, study for the BMA, and review any of the material that we cover.
- You are encouraged to work in groups and discuss the material with your classmates. But make sure that you are contributing to the discussion and not just coasting on your classmates' efforts.

What are workshops?

- I will be on hand to answer questions and help you with the material.
- If there is sufficient interest, I will use some of the workshop time for brief, informal “mini-lectures” — e.g. presenting general problem-solving tips or working example problems.

When and where do workshops meet?

- Starting on Wednesday, September 6.
- Two sessions each week:
 - Tuesdays, 11:05–13:45 in B&L 203H
 - Wednesdays, 12:30–15:15 in B&L 203H
- You are welcome in any workshop session, no matter which section you're registered for.
- Come when you want, leave when you want.

Should I come to workshop?

- Until you pass the BMA, you should plan to attend workshop regularly.
- Attendance is not required — i.e. you will not be penalized if you do not attend. But it is in your best interest. It's the best way to get help as you try to master the material and give yourself the best possible chance to pass the BMA the next time around.

How hard is the WeBWork?

- There's no very good answer to this question. It will be harder for some students than for others, and different students will struggle with different parts.
- Students who work diligently usually take 1–2 weeks per module.
- Start early, and work steadily. The sooner you finish, the more attempts you will have to pass the BMA.

Why is the WeBWork so long/hard?

- To develop your mathematical skills, and to prepare you to pass the BMA and to succeed in PHY 121–122 and subsequent courses.
- Just as you can't develop your muscles without exercising, you can't develop your problem-solving skills without solving problems.
- It really works! Students who work diligently on the WeBWork at a steady pace typically improve their BMA scores by several points.

How should I approach the WeBWork?

- Make a good-faith attempt at each problem. Each time you submit an answer, you should understand, and be able to explain, why you believe it is correct.
- Don't make a lot of random guesses. Sure, there's a (small) chance that you might get lucky, but there's a much greater chance that you will just waste your time and become frustrated.

Is academic honesty important?

- Very much so.
- You can find the College's policy on academic honesty at <http://rochester.edu/college/honesty/>.
- Do not use unauthorized aids (e.g. calculators, cellphones, your classmates) on the BMA.
- You may work together on the WeBWorK homework sets, but don't simply copy your classmates' answers. The answers that you submit should reflect your own understanding of how to solve the problem.
- If I discover dishonest conduct, I will be forced to take the appropriate actions as required by the College's policy.

Can you run all that by me again? Briefly?

- PHY 099 is a prerequisite for PHY 121–122.
- You must pass the BMA to receive credit for PHY 099.
- You have one “free shot” at the BMA. If you don’t pass, you must complete the 4 WeBWork modules before you can take it again.
- Work diligently on the WeBWork, and attend workshop regularly until you have passed the BMA.

Questions?

Remember, the first BMA is on Wednesday,
September 6.
Good luck!

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