PHY151

PHYSICS

For Scientists and Engineers | A Strategic Approach | 5e

RANDALL D. KNIGHT

Physics Student Union (PhySU)

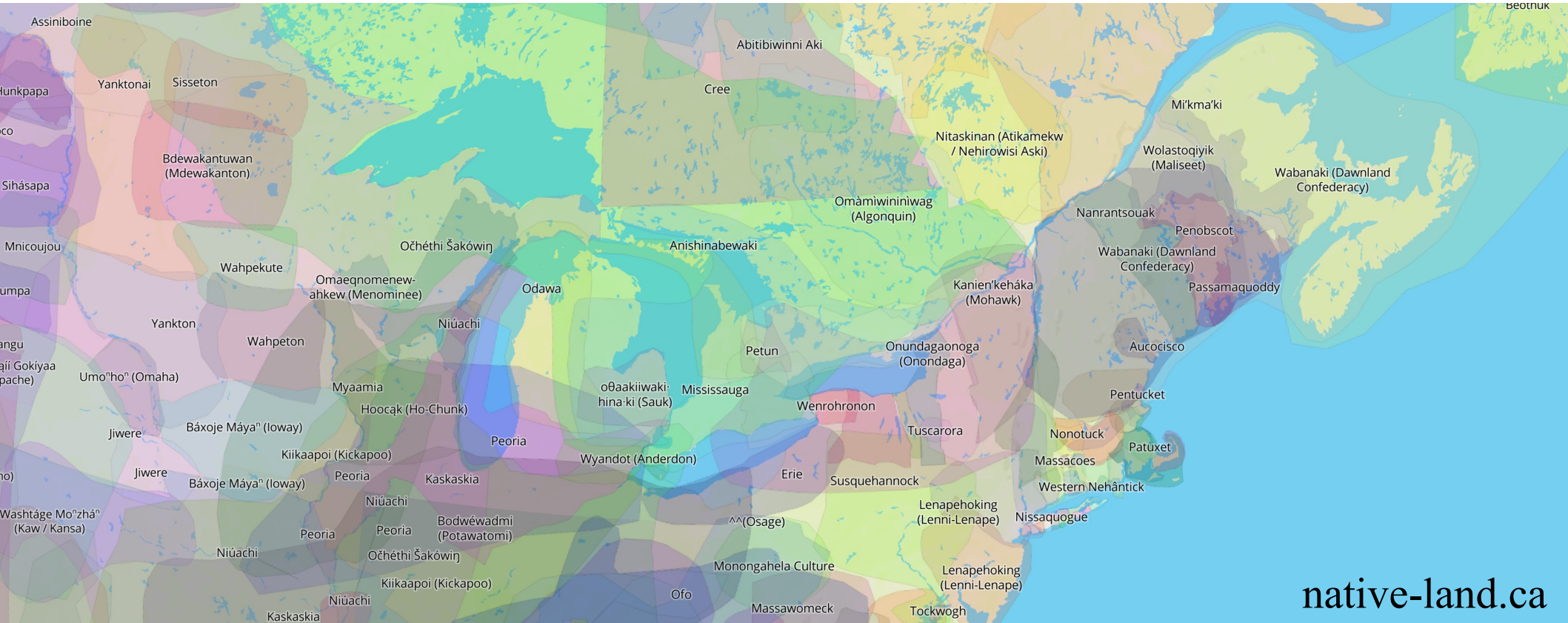
- Represents undergraduate physics students
- Lots of exciting academic and social events!

- First Year Rep exec position: Stay tuned for more info!
- Ice Cream outside MP today @ 2pm!

Discord Link:

Instagram @physu, Website: physu.org

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and most recently, the Mississaugas of the Credit River. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.



Who are we?

Classes: Prof. Brian Wilson
brian.wilson@utoronto.ca

Practicals: Prof. Jason Harlow
jason.harlow@utoronto.ca

Administration: Ms. April Seeley
april.seeley@utoronto.ca

24 Teaching Assistants

2 Lab Technicians

PHY131 vs. PHY151

- Same conceptual content
- PHY151 has a lot more calculus
- Can do a physics major from either, but PHY151 is the preferred option (due to the calculus)
- Classical mechanics and special relativity
- Seems like a repeat of high school physics, but it's not. We will go too fast for someone who has not done high school physics.


YO, IS THIS GOING TO BE ON THE TEST?
- STUDENT
DEAR STUDENT:
IT MAY OR MAY NOT BE ON THE TEST, BUT IT WILL BE APPLICABLE TO YOUR FUTURE CAREER, FOR WHICH THERE IS NO TEST.
WHEN YOU GET PAID TO DO A JOB, THEY EXPECT YOU TO KNOW THIS STUFF!
YOU NEVER KNOW WHEN IT'S GOING TO COME IN HANDY.
STUDY FOR LIFE, NOT JUST FOR THIS TEST.
- YOUR INSTRUCTOR
UH, IS THAT A "YES" OR A "NO"?
IT'S A "YO."
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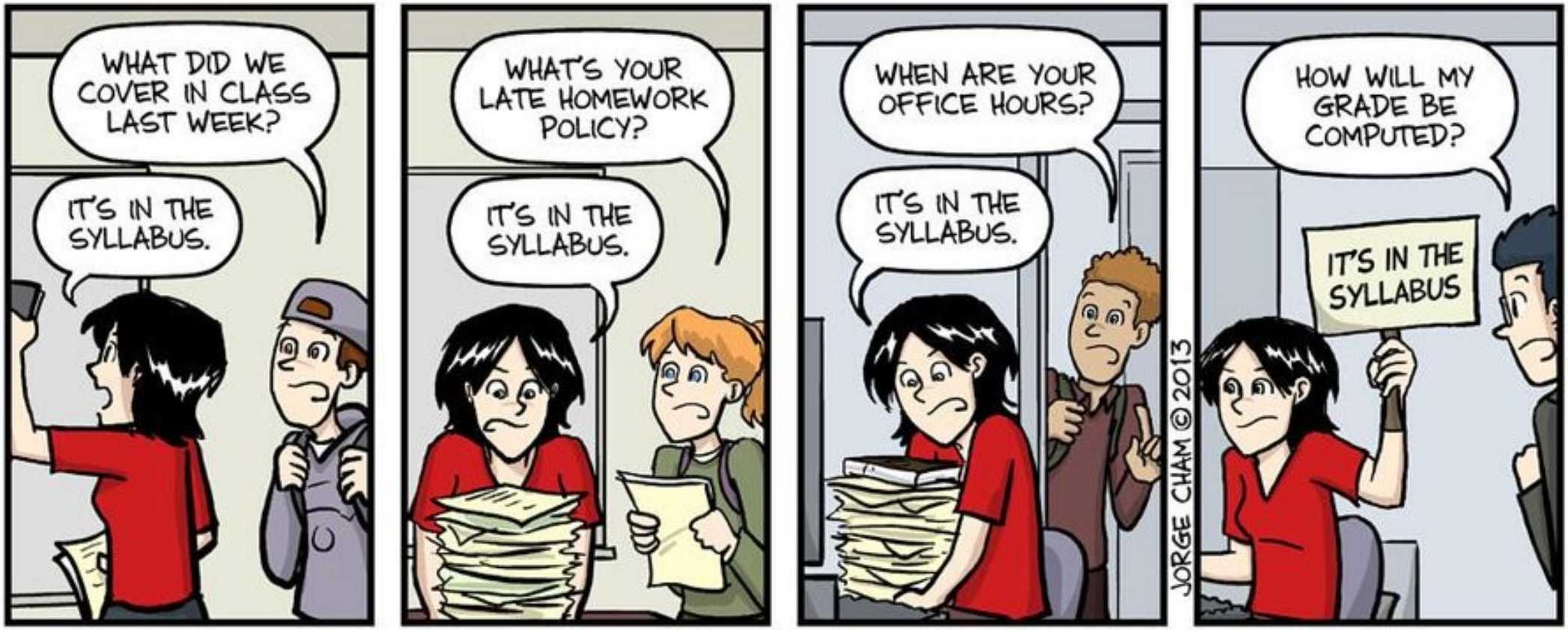
PHY151 Learning Goals

- Use the following mathematical tools to solve physics problems: vectors, derivatives, integrals, multiple coordinate systems, moving reference frames, conservation laws.
- Identify and apply assumptions and approximations in order to reduce a complex, real-world situation into a solvable physics problem.
- Take measurements (with uncertainties) of a real system and use those data to determine quantities which are not directly measured, and to judge whether the data are consistent with a given theory or model.



IT'S IN THE SYLLABUS

This message brought to you by every instructor that ever lived.

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What do you need?

- Scientific, non-graphing calculator (under $40)
- Computer and internet access (Quercus)
- Mastering Physics (from the UofT bookstore!)
- *Physics for Scientists and Engineers* (5^{th} ed) by Knight (Mastering Physics should come with an electronic copy of the textbook)
- Smartphone or tablet/laptop with wifi for classes
- Nothing else (no lab coats or lab books)

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Marking Scheme

- 35% final exam
- 10% each: three tests (30% total)
- 15% weekly practicals
- 12% participation (class, online homework, reflections)
- 8% written homework
- 1% BONUS: pre/post-course surveys

Rubrics will be provided ahead of time. Please read them!

Resources for help

- Student Services (Koffler Centre)
- Health & Wellness (moving due to renovations?)
- Accessibility Services
- Registrar's Office
- Your instructors (your mileage may vary)