

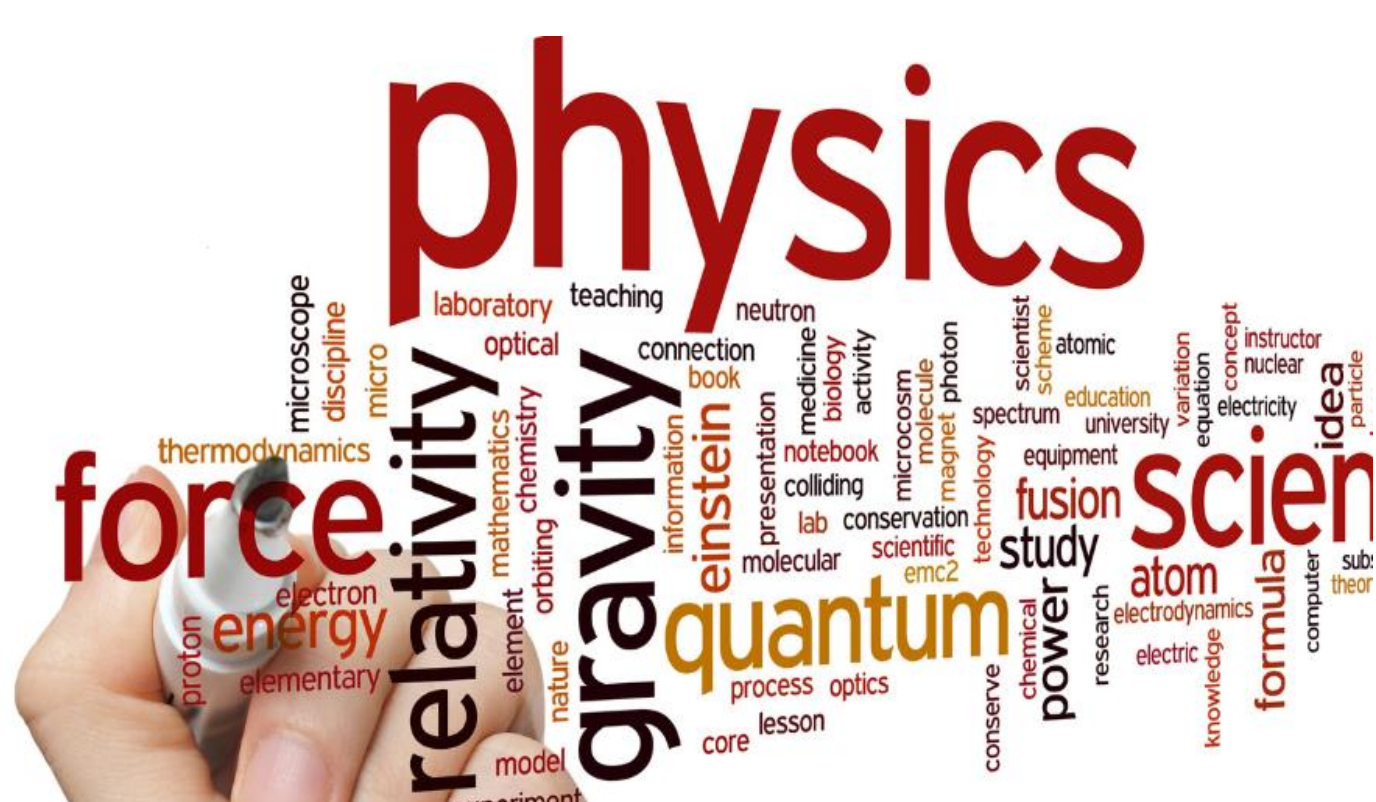
OER-Resources Support Large Physics Courses

Georg Rieger, Stefan Reinsberg, Erfan Rezaie, Joss Ives, Firas Moosvi and many UBC undergrad and grad students

Overview

- OER-resources now support half of our first-year physics courses:
- PHYS100, PHYS 131, PHYS117 and PHYS 118.
- A total of approximately 3500 – 4000 students benefit from these resources annually.

Open Access
Educational
Resources for
Teachers



The complete course resources are here:

<https://phas.ubc.ca/open-education-resources>

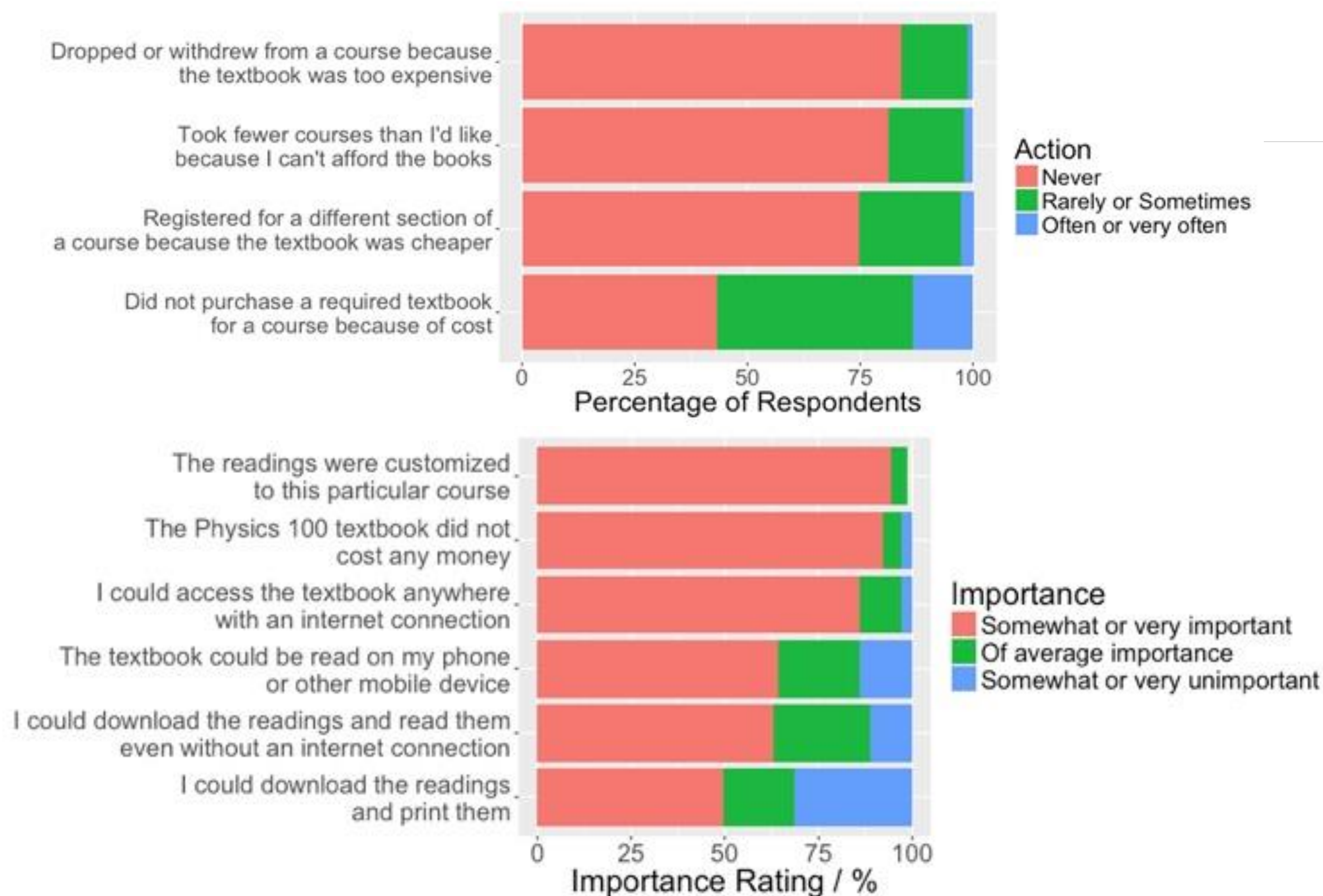
A little History

- Initially to support distance-education in PHYS 100: lectures, tutorials and labs
- 2013: custom modules derived from corresponding face-to-face worksheets, exams on UBC’s Connect LMS (Blackboard). In-person labs, commercial textbook and commercial online homework.
- 2015: Integration of open textbook, lecture and tutorial activities, homework and lab
- Served as template for later courses

Why OER?

- Customize
- Share
- Transfer
- Full control
- Available everywhere
- No cost for students

Related Research (from ref. 1):



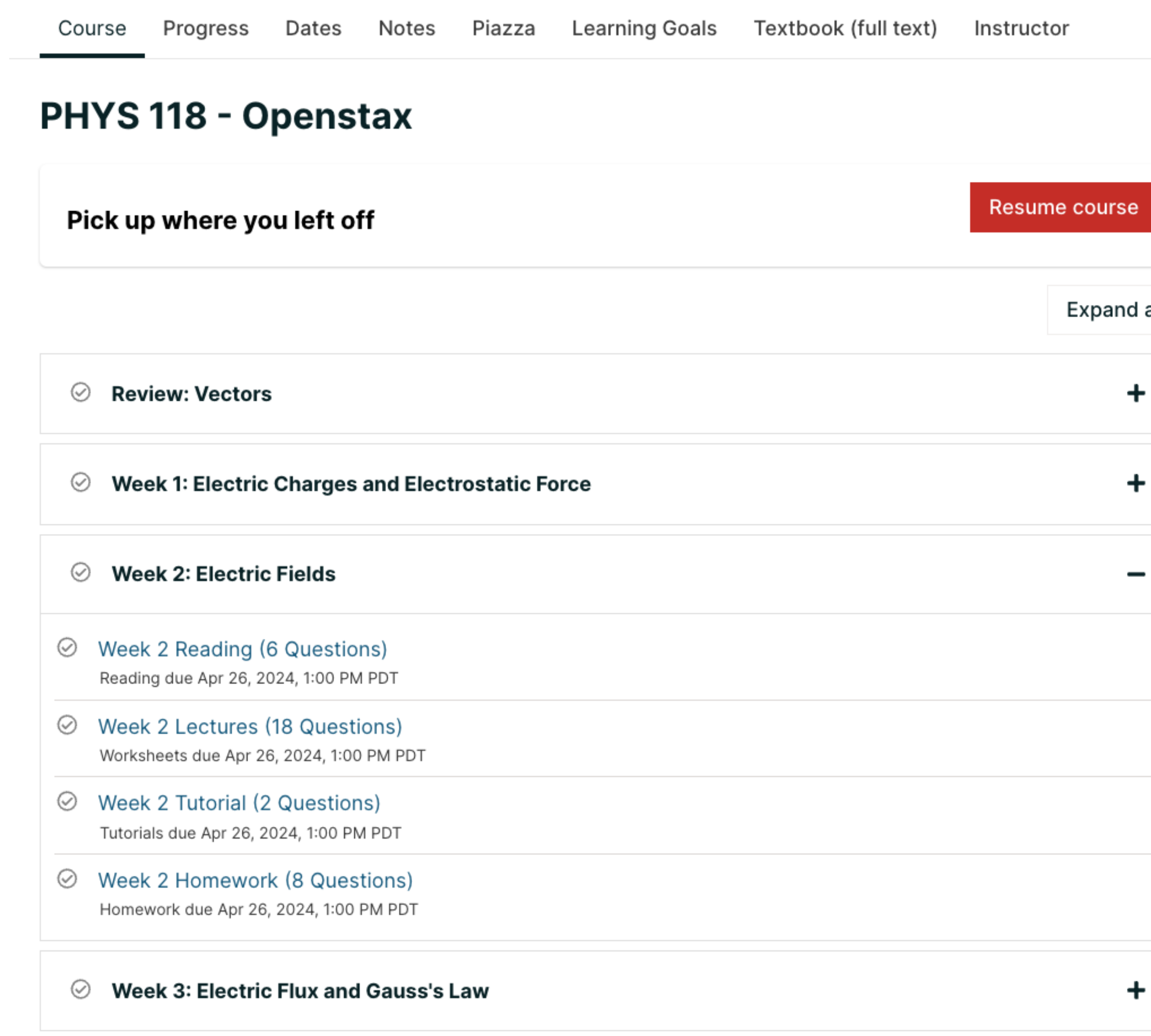
Our Design/Implementation

Standalone online course supporting in-class lectures and tutorials with weekly:

- (Pre-) Reading
- Lecture questions
- Tutorial questions
- Homework questions

Additions:

- Embedded simulations
- Videos
- Practice exams
- Math reviews
- Online lab, discontinued (ref. 2)



Screenshot of an edge.edX course

Reference / Bibliography

1. Hendricks, C., Reinsberg, S., and Rieger, G. (2017), "The adoption of an open textbook in a large physics course: An analysis of cost, outcomes, use, and perceptions" The International Review of Research in Open and Distributed Learning (IRRODL) 18 (4),78. <https://www.irrodl.org/index.php/irrodl/article/view/3006>
2. Moosvi, F., Reinsberg, S., and Rieger, G. (2019), "Can a hands-on project lab be effective as a distance lab?" The International Review of Research in Open and Distributed Learning, 20(1). <http://www.irrodl.org/index.php/irrodl/article/view/3782>

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