

Abstract Submitted
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Inverting physics courses at a research university: lessons and gains THOMAS NORDLUND, University of Alabama at Birmingham, Birmingham, AL — Traditional university physics courses consist of live lectures by the professor followed by homework and lab exercises done by the student, sometimes with a recitation or tutorial session run by grad students. In an “inverted” or “flipped” course structure, lectures by the professor are pre-recorded and posted online; live class time is then used for in-class work, tests, or whatever the professor deems most valuable. Several immediate benefits accrue: students can watch video lectures whenever and as often as they like (pauses for pizza and phone calls allowed), the professor can focus class time on assessing what students can do, remedying misunderstandings, and guiding “homework”; lectures never fall behind schedule. Students can view the lecture or read the textbook first, whichever suits them best. We are in the middle of inverting a section of PH 202, College Physics (algebra-based), at UAB, a research university. Some lessons learned will be presented: deliberately setting a video-lecture length at 25 minutes—one half of a 50-min period—and confining the lecture to one subtopic, benefits of instructor self-recording, video management, using class time effectively, and time, resource and scheduling issues.

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