

Some *learning goals* for Phys 4810/7810

- Articulate a philosophy of, and approach to, teaching and learning, *informed* by educational theory and PER work.
- Build familiarity with some key literature in Physics Education Research.
 - Critique and evaluate said key literature
 - Explicitly connect, in writing and in practice, the theoretical perspectives from (P)ER to your own personal teaching experience
 - Be able to explain to a non-expert some basic ideas of both cognitive and socio-cultural theories of how people learn physics
- Build familiarity with some key curriculum and pedagogical tools developed from Physics Education Research.
 - Critique and evaluate these tools
 - Make use of these tools (or some variant you develop) in your own teaching environments.
 - Evaluate homework assignments, and then construct your own variants which you can defend on the basis of theory and existing evidence.
- Develop familiarity with a set of PER assessment tools, and be able to explain their motivation, development, and realm(s) of applicability.
 - Critique said tools informed by PER-based theory and results.
 - Make use of these tools (or some variant you develop) in your own teaching environments.
- Evaluate and critique existing course structures and curricula with respect to their learning goals, their theoretical perspective, and their effectiveness.
- Articulate, develop, implement, assess, and evaluate a research project (action research) to inform your own (and others') teaching practices.
- Be able to explicitly identify the "hidden curriculum" in physics courses
 - Define it, assess it, and discuss the impact various teaching strategies might have on this hidden curriculum
- Be able to explicitly articulate at least some: social, political, historical and ethical dimensions of physics education.
- Improve your content knowledge in introductory physics
 - Construct concept maps for introductory E&M topics
 - Improve your performance on established conceptual surveys in E&M and mechanics
- Build on your personal understanding of whether/why you enjoy teaching, and whether/how you want to teach in the future.
- Have fun learning about learning