* Syllabus
  - Recommend texts
  - Class philosophy - faculty fellow - discussions
    - Develop map of QM together (not like E&M)
    - Provocative questions / guide discussion / fill gaps
  - I want relevance
  - Go over assignments

* Introduction
  - What is physics? Study of matter & interactions
    - Pillars: CM \(\rightarrow\) EM \(\rightarrow\) QM
      \(\rightarrow\) SM
  - What is classical physics & why?
  - Quotes: A. Michelson - Misattributed
    Lord Kelvin - Hint!
    (Wave theory of light & particle theory of matter)
  - Extensions of modern physics
    - 1st, 2nd quant. & how do we benefit?
    - SR, GR, etc.
  - Concepts - students list "essence of QM"
  - Postulates - Sudbery

- We just learned E&M: classical field theory
  - Now quantum field theory? NO!
  - Still classical fields \(\rightarrow\) quantum particles
  - You learned a lot of QM in EM - Schrödinger too!
  - Mathematics - almost identical!
    - Will fold it into the physics, not separate
  - New notation: \(\hat{a} |x\rangle = x |x\rangle\)
    \(\langle x'| \hat{a} |x\rangle = x \delta(x'-x)\)
• new tool: Mathematica

- what will we do?
  solve BVP's, eigenfunction expansions

- general outline