From induction to quantum spin: Training Students to become Physicists

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At Oregon State University, we have a unique approach to upper division undergraduate physics courses. These courses re-arrange the traditional content to center around conceptual and mathematical ideas in physics, with the aim of having students engage in authentic practices of physics in an interactive environment. I teach the quantum measurement course, our physics majors’ first introduction to QM, occurring in the middle of their junior year. I was hired to reform the introductory courses, and am using a curricular model that mirrors these upper division courses. I will explain this QM course, and link it to the model I am using for the introductory course reform. This will build a unified view of our 4-year program aimed at teaching skills needed for success in physics, and scaffolding our physics majors from being apprentices to practicing scientists.

1The OSU Paradigms project is responsible for the development of this unique course.