

Science Seminar - Winter 2007

On Mondays we read two books: Women in Mathematics (Osen, 1974, MIT), and Out of the Shadows: Contributions of twentieth-century women to physics (Byers and Williams, 2006, Cambridge). Each consisted of chapters focusing on individuals. The women in mathematics were discussed in their historical context, and the scientific accomplishments of the women in physics were emphasized. In our final week, we seminared on articles analyzing factors contributing to successes and barriers for women in the hard sciences, including two from Ben Barres, a male-to-female neuroscientist, articles on Islamic, Greek, and Czech women in science, and analyses comparing statistics and practices for American and European women in science (Science, 1994).

On Thursdays we read articles from two journals. *Physics Today* is written for practicing physicists and physics students; *Science News* digests selected articles from diverse peer-reviewed journals for easy accessibility by the lay public. Journals informed students of current developments in physics and other sciences, and stimulated discussions about fundamentals and new prospects.

Learning goals included quantitative reasoning, critical thinking, improved written and oral communication, and teamwork. Students were expected to analyze readings, explore substantive questions, use outside sources to research some questions, make connections between readings, and synthesize their understanding in weekly essays. Students were required to prepare “Points, Insights, and Questions” in pre-seminar team meetings and post these “PIQs” online before class. Each team facilitated at least one seminar. Individually, students were required to write five essays, and to respond thoughtfully to peers’ essays.

Equivalencies:

Monday Science Seminar: Total credit earned: /4
4 – Women in physics and mathematics

Thursday Science Seminar Total credit earned: /4
4 – Journal club in modern physics

Science Seminar Total credit earned: /8
8 – Readings in physics and astronomy