

This is an empty Template Requested by Faculty to use to provide evaluations of students to Program Secretaries. Examples of completed templates can be found at <http://www.evergreen.edu/deans/newevaluationprocess.htm>.

**Student Last and First Name:**

**Program, Course or Contract Title:** Physical Systems

**Quarter and Academic Year:** Winter – Spring 2007

**DESCRIPTION:** We studied Electromagnetism with vector calculus, Modern Physics, and Quantum Mechanics with linear algebra (in bra-ket, integral, and matrix form). We studied most of Introduction to Electrodynamics by Griffiths (3rd Ed.) except fields in matter; Ch.1-7 of Modern Physics by Tipler and Llewellyn (4th Ed.); and Ch.1-16 of Shankar's Principles of Quantum Mechanics.

We seminared on articles from *Physics Today* and *Science News*, and chapters from Women in Mathematics (Osen, 1974, MIT), and Out of the Shadows: Contributions of twentieth-century women to physics (Byers and Williams, 2006, Cambridge), in Winter quarter. In Spring we seminared on The View from the Center of the Universe (Primack and Abrams, 2006, Riverhead) plus articles on inflation by Linde, Guth, and Gribbin.

Students had extensive homework assignments every week, and midterm and final exams (in-class in winter, and take-home in spring). Everyone was asked to participate in interactive lectures, workshops, and discussions. Teamwork was strongly encouraged in physics and required in seminar. Physics students contributed peer instruction segments in many classes. Seminar students co-facilitated classes in small teams.

Students planned research projects in winter quarter and carried them out in spring. In weekly research workshops and independently, students developed unique open research questions, articulated multiple hypotheses, and designed and carried out tests of their hypotheses to address their questions. Students made research presentations every few weeks, with feedback from faculty and peers. We began the program by attending the joint American Astronomical Society / American Association of Physics Teachers meeting in Seattle in January, and concluded with students presenting their research at the American Physical Society NW section meeting in Pocatello (and Evergreen's Science Carnival) in May.

Details about Physical Systems at Evergreen are available online.

Faculty: Dr. E.J. Zita

**EVALUATION:** Written by: E.J. Zita, Ph.D. (physics)

**EQUIVALENCIES:** \* = upper division

- \* 8 cr Intermediate Electromagnetism
- \* 4 cr Quantum Mechanics
- \* 4 cr Modern Physics
- \* 2 cr Vector Calculus

**TOTAL CREDITS EARNED:**

- \* 4 cr Research Project
- \* 4 cr History of math and physics
- \* 4 cr Readings in Modern Cosmology
- \* 2 cr Advanced Linear Algebra