Syllabus: PSY 131, Science and Pseudoscience, Critical Thinking
5:00pm - 6:15pm on Tuesdays and Thursdays, sections 1,4 (CRNs 55510, 55563).
6:30pm - 7:45pm on Tuesdays and Thursdays, sections 2,5 (CRNs 55511, 55564).
Location: CRAMER 120
Three Credit Hours

Instructor: David E. Thomas
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Course Description: This course is geared toward training students in real-world applications of scientific methodology, research, hypothesis testing, and making tentative conclusions, and how these applications can be affected by the psychology of the participants. Several topics in both mainstream and “fringe” science will be explored, with emphases on exploring reliable methods for coming to objective decisions about such claims (“Is it science, or pseudoscience?”), as well as the psychology behind people wanting to believe things that aren't true. Students will be asked to research given claims, to discuss their observations in class, and prepare brief essays on selected topics. Homework and quizzes will cover material presented in class. Students will also submit a final project report on a topic of their choosing.

Materials, Readings, and Resources: The instructor will perform occasional science demonstrations; students will be encouraged to bring in their own examples of pseudoscience, demonstrations and etc. to add to class discussions. Required reading will include content that can be obtained without charge on the internet: (1) Irving Langmuir's talk on “Pathological Science” (1953); (2) Richard Feynman’s talk on “Cargo Cult Science” (1974); (3) an article of their choosing from the website of the Committee for Skeptical Inquiry (Amherst, NY). Recommended reading will include the books (1) Why People Believe Weird Things: Pseudoscience, Superstition, and Other Confusions of Our Time, Michael Shermer, Henry Holt and Company (1997); (2) Fads and Fallacies in the Name of Science, Martin Gardner (1957); (3) Flim-Flam! Psychics, ESP, Unicorns, and Other Delusions, James Randi (1982), and (4) 50 Great Myths of Popular Psychology: Shattering Widespread Misconceptions about Human Behavior , Scott O. Lilienfeld, Steven Jay Lynn, John Ruscio, Barry L. Beyerstein, Wiley-Blackwell, 2010. Online resources include the websites of the Committee for Skeptical Inquiry (www.cscicop.org) and the New Mexicans for Science and Reason (www.nmsr.org).

COURSE GOALS: The participant will acquire the ability to reasonably evaluate controversial or contested claims using the methods of objective science, rather than simply rejecting or accepting such claims a priori. Students will gain insight into the
psychological motives and polemical manipulations of practitioners of pseudoscience.

**SCHEDULE:** Thirty weeknight classes of 75 minutes are scheduled in the Fall Semester. Each class will combine lectures, discussion, occasional “hands-on” demonstration activities, and occasional written exercises.

**GRADING:** Grades will be based on homework essays, quizzes, tests, and participation in classroom activities.

**EVALUATION:** Evaluation will be based on class participation, quiz and test grades, and quality of student reports and essays. The final exam is optional, for students wanting to boost their grades. Moodle will be used for lecture downloads, homework submissions, quizzes, “Student Soapbox” discussions, and more.

**COURSE CONTENT:**

**Getting Help:** Networking with classmates is encouraged. The instructor will be available freely via phone and email. Meetings between classes can be arranged with discussion.

**OFFICE HOURS:**
12:30 - 1:00 PM on Thursdays, Cramer 109 (toward southern end of building), or by arrangement.