

**Psychology of Scientific Thinking**  
**PSY 01.106**  
**Course Outline**

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**Instructor: Dr. Monica Greco**

**Office Hours: By Appointment (Please sign up on my office door)**

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**Required Text:** Ruscio, J. (2006). *Critical Thinking in Psychology: Separating Sense from Nonsense*. Thomson Wadsworth.

**Rationale of Course:**

This course is designed as an introduction to the methods of science and the role that science plays in the understanding of how the world works. Throughout the course students will be given the tools to be able to differentiate between valid scientific claims and those made as a result of “junk” science or pseudoscience. The main emphasis of the course will be the development of critical thinking skills and a healthy skepticism when confronted with “scientific” claims. This course is also designed to introduce students to basic psychological processes that underlie human judgment and decision making that play a role in the persistence of beliefs in pseudoscientific and nonscientific explanations of behavior and phenomena (e.g., alien abductions, ESP, etc.). In addition to providing students with essential critical thinking skills and a working knowledge of the scientific methodologies, this course is also designed to introduce students to a number of psychological processes that underlie scientific methodologies and the persistence of belief in non-scientific claims

**Objectives of Course:**

- Introduction to the scientific methodologies used in psychology
- Stimulation of student interest in methods of science
- Sharpening of critical thinking skills
- Encouragement of skepticism when faced with information
- Development of an understanding of the psychological processes involved in judgment and decision making
- Differentiation between good science and pseudoscience
- Appreciation of the ethical implications of science and pseudoscience
- Critical evaluation of information from various sources (popular press, internet, scientific publications, etc.)
- Understanding of the contextual nature of science and its role within society

**Requirements of Course:**

- 3 examinations will each be worth 25% of your course grade. Exams

will be a combination of multiple choice and short answer/essay. Exams will be based on material covered in class and all required readings. Everything covered in class is fair game for exams including all demonstrations, videos/dvds, etc. All exams ***MUST BE TAKEN THE DAY THEY ARE SCHEDULED***. Make-up exams will only be given for valid and verified (doctor's note must be given) medical excuses and unavoidable emergency situations. ***IF YOU ARE UNABLE TO TAKE THE EXAM ON THE SCHEDULED DAY YOU MUST NOTIFY ME AS SOON AS POSSIBLE. IF THE STUDENT DOES NOT CONTACT ME AT LEAST 24 HOURS AFTER THE SCHEDULED TIME FOR THE EXAM HE/SHE FORFEITS THE OPPORTUNITY TO TAKE A MAKE-UP EXAM.*** All make-up exams will be given at the convenience of the instructor and may be in a format other than stated above. Please note that mobile phones may not be used for any purpose during exams (this includes using it as a clock).

- A group panel presentation will be worth 20% of your course grade. The panel presentation will require students to work in a group to provide evidence for and against particular phenomenon such as therapeutic touch. Groups will use information covered in class to build arguments. Additional information concerning this requirement will be distributed separately.
- Reaction papers to group panel presentations will be worth 5% of your course grade. After each group panel presentation the other members of the class will write a short reaction paper evaluating the arguments set forth by the panel. Additional information concerning this requirement will be distributed separately.

To calculate your final grade use the following equation:

$$\text{grade} = [(.25)(\text{exam 1}) + (.25)(\text{exam 2}) + (.25)(\text{exam 3}) + (.20)(\text{panel}) + (.05)(\text{total of reaction papers})]$$

Final course grades will be awarded based on the following percentages of points earned:

93% and higher: A	73%-76%: C	59% and below: F
90%-92%: A-	70%-72%: C-	
87%-89%: B+	67%-69%: D+	
83%-86%: B	63%-66%: D	
80%-82%: B-	60%-62%: D-	

### **Blackboard/WebCt**

This course will utilize Blackboard as a means of distributing course related information (e.g., course outline, announcements, grades, etc). Students are

expected to check the course site frequently and are responsible for all information posted there. You can access Blackboard from any computer with internet capabilities. You can log into Blackboard from the student portal. If you experience any problems accessing Blackboard please notify me immediately.

### **Attendance**

Students are expected to attend every class meeting and will be responsible for all material presented in class. Attendance will be taken every class meeting. If a student finds that they are unable to come to class IT IS THE STUDENT'S RESPONSIBILITY TO GET THE NOTES FROM A CLASSMATE regardless of the reason for the student's absence. The instructor will not provide copies of notes. As a courtesy to classmates and the instructor all mobile phones, MP3 players, etc. should be turned off and stowed away during class. Also students should refrain from leaving their seats while class is in progress.

### **Academic Honesty**

Cheating of any kind will not be tolerated. Any student found cheating will be given an automatic F for the course and their name will be forwarded to the Dean of Student's office for possible suspension or expulsion. Students should refer to the student handbook concerning the University's policy on academic honesty and all other university policies.

TENTATIVE TOPIC OUTLINE

<i><b>Date</b></i>	<i><b>Topic</b></i>	<i><b>Required Reading</b></i>
Jan 19	Objectives of course	Preface
Jan 21, 26	Science and Pseudoscience	Ch. 1 & 2
Jan 28, Feb 2	Use of Language	Ch. 3
Feb 4, 9	Magical Thinking	Ch. 4
<b>Feb 11</b>	<b>Exam 1</b>	
Feb 16	Authority	Ch. 5
Feb 18	Testimonials	Ch. 6
Feb 23, 25	Plausibility	Ch. 7
Mar 2	Correlation	Ch. 8
Mar 4	Risk Assessment	Ch. 9
Mar 9, 11	Confirmation Bias, Post Hockery	Ch. 10
<b>Mar 23</b>	<b>Exam 2</b>	
Mar 25, 30	Conspiracy Theories	Ch. 11
Apr 1, 6	Illusion of Control	Ch. 12
Apr 8	Clinical vs. Statistical Decisions	Ch. 14
Apr 13, 15	Ethics	Ch. 15
Apr 20, 22, 27, 29	Panel Presentations	
<b>Finals Week</b>	<b>Exam 3</b>	