Psychology 330
Thinking
Winter 1992

Professor: Dr. Deborah Frisch   x6-4959

Office Hours: 325 Straub
Monday, 2:30-3:30; Thursday 3:30-4:30 or by appointment

Date	Topic	Readings
Jan 7	Introduction	Chapter 1 (Halpern)
Jan 9 Hand out Assignment 1	What is good thinking	Parts I & II (Feynman)
Jan 14	Language, metaphor and thought	Chapter 3 (Halpern)
Jan 16 **Assignment 1 due**	Evaluating arguments	Chapter 4 (Halpern)
Jan 21	Persuasion/Advertising	Chapter 5 (Halpern)
Jan 23 Hand out Assignment 2	Hypothesis testing	Chapter 6 (Halpern) Part III (Feynman)
Jan 28	Probability	Chapter 7 (Halpern)
Jan 30 **Assignment 2 due**	Thinking and intuition	
Feb 4	MIDTERM	
Feb 6	Problem solving	Chapter 9 (Halpern)
Feb 11 Hand out Assignment 3	Practical problem solving	Part IV (Feynman)
Feb 13	Creativity	Chapter 10 (Halpern)
Feb 18 **Assignment 3 due**	Decision making: Overview	Chapter 8 (Halpern)
Feb 20	Economic approach to decision making	Reserve Section II
Feb 25 Hand out Assignment 4,5	The psychology of decision making	
Feb 27	Making better decisions	Chapter 11(Halpern) Reserve Section III
Mar 3 **Assignment 4 due**	Thinking in groups: Social dilemmas	
Mar 5	Thinking cooperatively	Part V (Feynman)
Mar 10	Women's thinking/Men's thinking	
Mar 12 **Assignment 5 due**	Summary and Review	

Reading:

1. Text: Diane Halpern Thought and Knowledge

2. Richard Feynman   Surely You're Joking, Mr. Feynman
(Assignments 1 and 5 are based on this book.)

Richard Feynman was a Nobel prize winning physicist. This book
contains anecdotes about his life that illustrate his critical
thinking about many different topics.

The following chapters in Feynman are especially relevant:

Part I:

He Fixes Radios By Thinking!
Always Trying to Escape

Part II:

Surely You're Joking, Mr. Feynman
Mixing Paints
A Different Box of Tools
Mindreaders

Part III:

Testing Bloodhounds
Safecracker Meets Safecracker
Uncle Sam Doesn't Need You

Part IV:

The Dignified Professor
Certainly, Mr. Big!
An Offer You Must Refuse

Part V:

It Sounds Greek to Me
Is Electricity Fire?
Altered States
Cargo Cult Science

3. Reserve reading at Library. There's a small packet on reserve at
the library. Section I of the packet contains newspaper columns which
are part of Assignment 2. Section II contains readings for Feb 20.
Section III contains readings for Feb 27.

Grading plan:

There are several different ways to earn points in this class:

Midterm and Final: 100 possible points each (Exams will be based on lectures, the Halpern text and the reserve readings. You will not be tested on the Feynman book.)

5 paper options: 25 possible points each

Participation in psychology department experiments: Total of 25 points for doing 3 experiments

Your final grade will be based on the total number of points you earn over the term:

Total # of points	Letter grade
>240	A
211-240	B
181-210	C
151-180	D
150 or below	F

Paper options:

Assignment 1:	Essay on Feynman book	Due:	January 16
Assignment 2:	Evaluating arguments	Due:	January 30
Assignment 3:	Practical problem solving	Due:	Feb. 18
Assignment 4:	Decision analysis	Due:	Mar. 3
Assignment 5:	Essay on Feynman book	Due:	Mar. 12

Papers should be 3 pages typed, double spaced. There will be handouts explaining the assignments in more detail.

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1/7/92

Here are some problems to think about. Try to figure them
out. We'll discuss them in class on Thursday.

1. Last week I turned off the light in my bedroom and managed to
get to bed before the room was dark. If the bed was 10 feet from
the light switch, how did I do it?

2. How many students must there be in a class in order to be
sure that at least 2 have the same birthday?

3. What's wrong with this proof:

Children have no time for school. One-third of the time they're
sleeping, for a total of approximately 122 days. One-eighth of
the time they're eating (3 hours a day) for a total of about 45
days. One-fourth of the time, or 91 days, is taken up by summer
and other vacations and two-sevenths of the year, 104 days, is
weekend. The sum is more than a year, so they have no time for
school.

4. You meet a man and he tells you that he has two children.
You say to him "Is at least one of your children a boy?" He says
"yes". What is the probability that the other one is a boy?

5. A man looks at a portrait. Someone asks him "Whose picture
are you looking at?" He replies "Brothers and sisters have I
none, but this man's father is my father's son." Whose picture
is the man looking at?

6. Which would you rather have:

a. $10,000 a day, every day for a month.

b. 1 cent the first day, 2 cents the second day, 4 cents the
third day, 8 cents the fourth day - keep doubling the amount
every day for a month.

7. How many different explanations can you come up with for why
there is a positive correlation between smoking and lung cancer?