

## **FYS 243 – Science of Alternative Medicine**

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### **Goals and Objectives:**

The goal of all first year seminar courses is published in the Bates catalog: “The first year seminars enable entering students to work with faculty and other students in the context of a small class; they provide closely supervised training in techniques of reasoning, writing and research; and they foster an attitude of active participation in the educational process.”(2001-2002 Bates College catalog, page 16). Thus, some of the objectives of this course address the college goals of facilitating student participation in their own learning by encouraging student research, student-led discussions and writing.

The other major goal of this course is to allow students to study a major growth industry, the alternative or complementary medicine field. This field has grown in popularity among Americans to the extent that millions of people are spending as much, if not more, money on non-Western forms of healing than on conventional Western medicine. Students in this course examine the “science” behind some of the forms of alternative medicine now practiced in the United States. The specific objectives, therefore, include the development of:

- An understanding of the scientific, cultural, environmental and legal issues surrounding the use of complementary/alternative therapies.
- An understanding of the scientific method of investigation
- An ability to critically analyze several types of literature, from the popular to the scientific.
- An ability to express those analyses in written and oral format.

### **Responsibilities:**

Of the student – Students are expected to attend all class meetings and field trips and to arrive for these on time. As mentioned above, the purpose of the first-year seminars is to “foster an attitude of active participation...”. You cannot participate if you are not there, so the participation portion of your grade will suffer if you do not attend class. Keep in mind though that your physical presence in class is not sufficient to receive a good participation grade. You must be intellectually engaged as well, which means both being *alert* and *prepared*.

Students are expected to turn in all assignments on time. Do not ask for an extension *after* the assignment is already due. It will not be granted and your grade for the assignment will suffer if it is late. If extenuating circumstances make you unable to turn in an assignment, arrange with the instructor *at least two days* in advance to extend the deadline. Dean’s excuses for serious illness or family emergency will, of course, be honored.

Students are expected to participate as equal members in group work. You will be doing at least two group projects this semester that require the cooperation of all members. You will fill out forms of evaluation for these projects that are designed to assess the participation of all members of the group. Don’t be the one who slacks off or doesn’t show up for group meetings. If you are, you will be exposed and your grade adjusted accordingly.

## **Responsibilities:**

Of the instructor – The instructor will attempt to provide an environment conducive to learning, both inside the classroom and during field trips and library work. I will be available for consultation with any student by appointment, or during office hours. I encourage you to use these office hours or other arranged times.

The instructor will provide all formal assignments *in writing* at least two weeks prior to the assignment deadlines, with the possible exception of the first assignment. I will provide written feedback on all formal writing assignments and will be as prompt in grading and returning assignments as is feasible. Please remember that there are 15 of you and only one of me. Revision of graded papers will be allowed when possible.

## **READING LIST**

### **Required texts:** (available at bookstore)

- 1) Tyler, L., Understanding Alternative Medicine, Haworth Press, Inc., New York, 2000.
- 2) Richter, R.K., Herbal Medicine: Chaos in the Marketplace, Haworth Herbal Press, 2003.
- 3) Kaptchuk, T., The Web that has no Weaver, NTC/Contemporary Publishing Group, Chicago, 2000.

### **Optional text:** (available at bookstore and on 2 hour reserve at Ladd Library)

Spencer, J.W. and Jacobs, J.J., Complementary/Alternative Medicine: An Evidence Based Approach, Mosby, Inc., St. Louis, 1999.

### **Reading list\*:** (on 2 hour reserve at Ladd Library)

R1: The Scientific Method, In Kneidel, S., Creepy Crawlies and the Scientific Method, Fulcrum Publishing, Golden CO, 1993.

R2: The PI System, Bates College Biology Department,  
<http://abacus.bates.edu/~ganderso/biology/resources/pi.html>

(or go to Bates Home page, academics, biology, resources for courses, PI system

R3: Locating and Using Biological Literature, by V. McMillan, in Writing Papers in the Biological Sciences, Bedford/St. Martins, Boston, 2001, pp. 5-19.

R4: Encounters with Qi, by D. Eisenberg, W.W. Norton & Co., New York, 1985.

(Scan the first few chapters for now, through the chapter on Dr. Fang; you may find you want to read the whole thing, but let everyone else get to it first – there is only one copy of the book.)

R5: The Nature of Ginseng, by S. Dharmananda, HerbalGram 54, 2002, pp. 34-51.

R6: On the Trail of the ‘Sang Poachers’, by J. Bourne, Audubon, March-April 2000, pp. 84-90.

R7: Health-promoting Properties of Common Herbs, by W.J. Craig, Am. J. Clin. Nutr, 70, 491S-499S.

R8: An FDA Guide to Dietary Supplements, by P. Kurtzweil, FDA Consumer, January 1999,  
<http://vm.cfsan.fda.gov/~dms/fdsupp.html>

R9: Dietary Supplement Health and Education Act of 1994, Center for Food Safety and Applied Nutrition, December 1995, <http://vm.cfsan.fda.gov/~dms/dietsupp.html>

R10: Herbal Dietary Supplements and Food: Product Liability Analysis for a “Failure to Warn” of Herb/Drug Interactions and Guidelines to Develop Appropriate Warnings, by P.D. Rubin, HerbalGram 55, 2002, pp. 55-59, 71. (Optional)

R11: Nature’s Rx, by J.L. Swerdlow, National Geographic, April 2000, pp. 98-117.

R12: The Mainstreaming of Alternative Medicine, Consumer Reports May 2000, pp. 17-25.

R13: Effect of Hypericum perforatum (St John’s Wort) in major depressive disorder, by the Hypericum Depression Trial Study Group, JAMA 287, 2002, 1807-1814.

R14: New St. John’s Wort Study Misleads Public, by H. Cass, Total Health, Anthem Blue Cross Blue Shield, May/June 2002.

\*Additional readings will be added as the semester progresses.

#### SCHEDULE OF TOPICS AND READINGS

Week	Date	Subject	Reading
1		Course introduction – What is alternative medicine? - Free write and discussion	
		What is alternative medicine? - Has your reading and class discussion changed your view of alternative medicine? If so, how? If not, why not? <b>Turn in 1 page response by 4:00 pm</b> (109 Carn) - No class today	Spencer, Ch. 1 Tyler, Ch. 1 Kaptchuk, Ch. 1 Richter, Ch. 1
2		What is alternative medicine (discussion, cont.)? The scientific method - Description and group work	Kneidel, R1 PI System, R2
		Discuss ideas for experiments to pursue in class - What additional information do you need?	
		Introduction to research at Ladd Library - Meet at instruction room in library	McMillan, R3
3		Writing introductions and peer reviewing - Seri Rudolph on peer review - Trip to Writing Workshop - <b>Experimental design and references due</b>	
		Alternative medicine: Introduction to Traditional Chinese Medicine - Bill Moyer’s video	Eisenberg, R4 <b>Do this reading early!</b>

		<b>- Introduction drafts due</b>	
		Traditional Chinese Medicine - Discussion of readings <b>- Peer reviews due</b>	Tyler, Ch. 2 Kaptchuk, Ch. 2
4		TCM fundamentals - Organs and meridians <b>- Revised introduction due</b>	Kaptchuk, Ch. 3, 4
		More TCM fundamentals - Disharmonies and diagnosis	Kaptchuk, Ch. 5, 6
		TCM practiced in the Eastern vs. Western World - Ginseng: traditional vs current uses - Issues of sustainablility	Tyler, Ch. 3 Dharmananda, R5 Bourne, R6
5		TCM practiced in the Western World - The booming business of dietary supplements - Field trip to Rite Aid	Tyler, Ch. 4 Craig, R7
		Safety issues with TCM practice in the West - The FDA and regulation of drugs - Dietary Supplement Health and Education Act of 1994	Richter, Ch. 9,10 Kurtzweil, R8 Dietary, R9 Rubin, R10 (optional)
		TCM: The practices of T'ai Chi and Qigong - With Ian Gamble of Full Circle Synergy - Wear comfortable, loose fitting clothing	<a href="http://www.fullcirclesynergy.com">www.fullcirclesynergy.com</a> Read the section "About T'ai Chi" and visit some of the "Links"
6		TCM practiced in the Western World - Clinical trials and the scientific basis of acupuncture and herbal remedies	Swerdlow, R11 Consumer Repts, R12 Kaptchuk, App. E Tyler, Ch. 5,6
		Clinical trials and scientific basis of acupuncture and herbal remedies (cont.)	Hypericum, R13 Total Health, R14
	Friday and Saturday	Field trip to Boston's Chinatown, Harvard's Osher Institute, New England School of Medicine	
7		<b>Herbal Project Presentations</b> - 12 minute group presentations - Select final project topics	
		No Class - October Break	
8		What is Naturopathic Medicine?	TBA
		Visit by Naturopathic practitioner	TBA
9-13		Topics in Alternative Medicine - See description below	

## **ASSIGNMENTS**

A detailed description of your major assignments (scientific method, herbal project, final project) will be handed out separately, and early enough for you to do sufficient planning and research. A brief description of the final project, topics in alternative medicines, is given below.

### **Response papers**

Each week you will be expected to visit the New York Times electronic science and health sections, which are largest on Tuesdays, the Anthem BCBS My Health section on Alternative Health, and any other *news* site with stories on alternative medicine (including popular news magazines). Choose an article of interest on one of these sites, and write a response to the article. The response should very briefly summarize the content of the article, present the writer's perspective on the topic, and present your own opinion on the topic. Each response should be typed, double-spaced, no longer than one page, and is due **each Wednesday** before class. Twice during the semester you will do further research, including looking up the scientific articles that your news piece refers to, and write a two page response in which your opinion on the subject is supported by the additional research you have found. Your one-page responses will be graded on a check plus, check, check minus basis for summary accuracy, clear presentation of opinions and mechanics, and cumulatively will be worth 5 % of your grade. Each of the two, two-page response papers will be graded on summary accuracy, clear presentation of opinions and arguments supporting those opinions, and mechanics, and will **each** be worth 5% of your grade.

URLs for pertinent sites:

[www.nytimes.com/pages/health/index.html](http://www.nytimes.com/pages/health/index.html)  
[www.nytimes.com/pages/science/index.html](http://www.nytimes.com/pages/science/index.html)  
<http://home.anthemhealth.com/>

(agree with the site terms, then choose alternative health)

### **Topics in Alternative Medicines**

A portion of the second half of the semester will be spent discussing various forms of complementary and “alternative” medical practices that were not discussed in length in the first half of the semester. Students will work in pairs to decide which topics are of most interest, and to present the information on these topics over one class period. You will find a list of possible topics below and should begin looking into those that interest you as soon as possible. You will be asked to sign up for a topic before October break and to provide a brief bibliography of readings that might be used in your session (although these can change). Beginning your planning this early is essential to a good project presentation. Details of the assignment, which will include an oral component, a written component and a final poster presentation, will be handed out at a later date.

**Possible Topics:** (feel free to propose other topics to the instructor)

Acupressure/ Reflexology  
Aromatherapy  
Ayurvedic Medicine and/or Yoga  
Dietary Supplements/ Nutrition  
Homeopathy  
Manual Therapies (e.g. massage therapy, polarity, therapeutic touch)  
Reiki  
Spiritual Healing

## **GRADING**

Assignment	Percentage of Final Grade		
	Group	Individual	Total
Scientific Method Project	5 %	10 %	15 %
Herbal Project	10 %	10 %	20 %
Final Project	15 %	15 %	30 %
Quizzes/Essays	--	2 @ 5 %	10 %
Response papers		15 %	15%
Participation	--	10 %	10 %
Totals	30 %	70 %	100 %