

Introduction to Botanicals and Nutraceuticals**PHR 292G****Unique Numbers:****Austin: 62260****El Paso: 62265****San Antonio: 62270****Valley: 62275**

Spring 2013

PHR 2.108

Tuesdays and Thursdays; 2 – 3pm CST (1-2pm Mountain)

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I. Rationale:

Many Americans use [complementary and alternative medicine](#) (CAM) in pursuit of health and well-being. The 2007 National Health Interview Survey (NHIS), which included a comprehensive survey of CAM use by Americans, showed that approximately 38 percent of adults use CAM. The Natural Product area of CAM includes use of a variety of herbal medicines (also known as botanicals), vitamins, minerals, and other "natural products." Many are sold over the counter as dietary supplements. (Some uses of dietary supplements—e.g., taking a multivitamin to meet minimum daily nutritional requirements or taking calcium to promote bone health—are not thought of as CAM.) Interest in and use of CAM natural products have grown considerably in the past few decades. The 2007 NHIS found that 17.7 percent of American adults had used a nonvitamin/nonmineral natural product. These products were the most popular form of CAM among both adults and children. The most commonly used product among adults was fish oil/omega 3s (reported by 37.4 percent of all adults who said they used natural products); popular products for children included echinacea (37.2 percent) and fish oil/omega 3s (30.5 percent).

Reference: *What Is Complementary and Alternative Medicine?* National Center for Complementary and Alternative Medicine (NCCAM). Available at URL: <http://nccam.nih.gov/health/whatisacam>. Accessed 1-10-13.

II. Course Aims and Objectives:***Aims***

The aim of this course is to prepare the student to respond to questions from patients and other health-care professionals regarding dietary supplements by covering current knowledge of dietary supplements and to assess the validity of emerging information.

Specific Learning Objectives:

By the end of this course, students will:

1. Describe the federal regulatory process for the production and sale of dietary supplements in the United States;
2. Discuss the potential problems and concerns with regulation of dietary supplements;
3. Compare and contrast the advantages of available dietary supplement resources and references;
4. Describe the body of scientific evidence supporting the safety and efficacy of individual dietary supplements reviewed during the course in terms of quantity, quality, and consistency;
5. Identify knowledge gaps in the scientific evidence for dietary supplements; and
6. Given a patient scenario involving the current or desired use of a dietary supplement, develop an evidence-based recommendation for the patient.

III. Format and Procedures:

This course will be a combination of lectures presented live during scheduled class time and pre-recorded lectures. Most class meeting times will require participation and discussion therefore attendance is requested. This class will be informal with no judgments to foster an active, healthy learning environment, however professionalism is expected at all times. The more you put into the work and discussion, the more prepared you will be when you are a practicing pharmacist.

IV. Tentative Course Schedule: ***This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.*

Date	Title	Readings	Comments
8/29/13 LIVE	Syllabus Review & Dietary Supplement Information Resources		
ONLINE Content Due by 9/5/13	DSHEA & the History of Herbal/Supplement Regulation	Tyler Text: The herbal regulatory system pg. 223-236 Handbook: Chapter 50 – Sections: Intro to DS through Leg/Reg Issues	
9/5/13 LIVE	Responding to questions about an Herb/Supplement (<i>Dr. Pope</i>)	Tyler Text: Chapter 1 Handbook: Chapter 50-Communication Issues and Reliable Resources	
ONLINE Content Due by 9/12/13	Diabetes: Chromium, Cinnamon	Chapter 8: pgs 160-162	
9/12/13 LIVE	Counterfeit Supplements and other issues; Identifying Quality Supplements and their sources	Review: http://www.usp.org/dietary-supplements/overview Watch: http://www.usp.org/sites/default/files/video/uspvConsumerEducation/index.html Handbook: Chapter 50-Common Quality Control Issues through Hazards	Dr Rivera broadcast from El Paso
ONLINE Content due by 9/19/13	Cardiovascular System	Handbook: Chapter 51-Cardiovascular NMCD: Related products	
9/19/13 LIVE	Omega Fatty Acids	Handbook: Chapter 51-Cardiovascular Kwak et al. <i>Arch Intern Med.</i> 2012 May 14;172(9):686-94.	Complete Online Quiz #1 by 9/19/13
ONLINE Content due by 9/26/13	Allergy	NMCD: Stinging Nettle, Quercetin, Neti Pots	
ONLINE Content	Immune System	Tyler Text Chapter 11 pg 197-205 and 211-218.	

due by 10/1/13		NMCD: Zinc, Echinacea, Olive Leaf, Elderberry Handbook: Chapter 51 - Echinacea	
ONLINE Content due by 10/3/13	Weight Loss	Handbook: Chapter 51 – Physical and Mental Performance Enhancers & A Word about Weight Loss	
10/3/13 LIVE	Headaches/Migraine	Handbook: CNS-Butterbur, Feverfew NMCD: butterbur (Petadolex)	Complete Online Quiz #2 by 10/3/13
ONLINE content due by 10/10/13	Digestive System Problems & Probiotics	Tyler Text Chapter 3: pgs 23; 30-55 Hanbook: Chapter 51-Digestive System & Probiotics	
10/10/12 LIVE	History and Introduction to Homeopathy	Handbook: Chapter 52- Homeopathy, Naturopathy	
ONLINE Content due 10/17/13	Popular Homeopathy Products		Complete Online Quiz #3 by 10/17/13
10/17/12 LIVE	Acupuncture		
ONLINE content due 10/24/13	Depression/Anxiety	Handbook: CNS-St John's Wort	
10/24/13 LIVE	Journal Club Presentations		
ONLINE content due by 11/7/13	Alzheimer's/Dementia/Anti-Aging	NMCD: Resveratrol	Complete online Quiz #4 by 11/7/13
11/7/13 LIVE	Women's Health	Handbook: Women's Health	Andy Ruiz, Guest Speaker
11/12/13 Online	Insomnia	Handbook: CNS-Melatonin, Valerian, 5-HTP	
11/14/13 LIVE	Men's Health	Handbook: Saw Palmetto	Andy Ruiz, Guest Speaker
ONLINE content due 11/21/13	Musculoskeletal System	Handbook – Chapter 51 – Musculoskeletal System Section	
11/21/13 LIVE	Massage		
11/26/13	No Class (Thanksgiving)		Complete Online Quiz #5 by 11/26/13

11/28/13	No Class (Thanksgiving)		
12/3/13 LIVE	Final Presentations		
12/5/13 LIVE	Final Presentations		

V. Course Requirements:

1. Class attendance and participation policy:

- (a) Attendance is required for this course.
- (b) Class participation is necessary to maximize learning for this course. You can't participate if you aren't in class!
- (c) All online lectures should be viewed prior to the next LIVE class to facilitate group discussion.

Religious Holy Days

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, I will give you an opportunity to complete the missed work within a reasonable time after the absence.

2. Course Readings/Materials:

- (a) **Required Textbook:** Handbook of Nonprescription Drugs 17th Edition. Available online.
- (b) **Required Textbook:** Awang, Dennis V.C. (2009). Tyler's Herbs of Choice : The Therapeutic Use of Phytomedicinals. (available as e-Book FREE online at: www.lib.utexas.edu) Search: Herbs of Choice
- (b) **Natural Medicine Comprehensive Database:** Every UTCOP student has free access. Be sure to register ASAP if you do not have access already.
- (c) It is recommended you bring a laptop computer to class to aid in active exercises. If you do not have one, that is ok, as most exercises will occur in groups.
- (d) Other readings will be uploaded to Canvas during the semester.
- (e) Sometimes, resources are best presented as a video. Online access is required.

3. Assignments, Assessment, and Evaluation

Method	No.	% of Total Grade	Points Possible	Brief Description
Online Post-Tests	5	20%	80 (16 per post-test)	Must be completed by next live class
Meta-analysis Review	1	10%	10 – Article chosen by deadline 30 – Assignment completed	Article choice due Sept 15 @11:59pm CST Assignment due Oct 1 @11:59pm CST
Journal Club Assignment	1	10%	10 – article submitted for	Article choice due Oct 15 @11:59pm CST

			approval by deadline 30 – assignment & presentation	Due Oct 24 @start of class
Online Discussion Posts	18	30%	120 (20 per discussion)	Due every other week
Monograph Group Project	1	20%	80	Monograph and PowerPoint Slide Deck due 7am day of presentation uploaded to Canvas – Presentations are last days of class
Attendance	12	10%	36 (3 per class)	Mandatory
Extra Credit	1	+ 5%	20	Complete another Meta- Analysis Review

Meta-Analysis/Systematic Review

Complete the Meta-analysis/Systematic Review template for the American Botanical Council. The template can be found on Blackboard. The article choice from the list is due by deadline listed. This includes uploading the actual article to the Blackboard assignment. The completed template is due by the stated deadline by uploading the completed template to Blackboard.

Journal Club

Complete a written journal club evaluation of a primary journal article about a specific **dietary supplement**. Please submit article for approval to Dr. Pope by deadline. Do so by uploading your article to the appropriate assignment in BB. I will notify you if approved. No two articles can be alike so if a classmate chooses the article first, you must choose another. See rubric for specific evaluation criteria. Journal Club itself is due by deadline @ start of class uploaded to Blackboard. You will present a brief summary of your Journal article in less than 3 minutes. Think of it as an elevator pitch about your article.

Proprietary Herb Product Project

You are to design a proprietary blend dietary supplement of at least 2 ingredients. You must have the ability to justify the inclusion or exclusion of key ingredients in your product. You will present this to the class in a PowerPoint format presentation. All members of the group must have equal participation in the oral presentation. The length of the presentation should be at least 15 minutes, maximum 25 minutes. The presentation should not take much additional work, as it should follow the information in your written drug monograph. Create a professional monograph that mimics a drug monograph to be used by healthcare professionals. Your monograph and slide deck should be uploaded to Blackboard by 7am the morning of the presentation so I can print enough copies for the class to follow along with your presentation. See the complete guidelines and rubric for additional information.

Online Discussion Board

Participation in the discussion forums is critical in maximizing student-learning experiences in this course. Students are required to be a part of an online community of

learners who collectively interaction, through discussion, to enhance and support the professional performance of each other. Part of the assessment criteria for the course includes evaluating the quality and timeliness of your participation in the discussion forum. See Rubric for specific evaluation criteria.

As the instructor, I will facilitate student discussions but I will not address every single post. In most cases, I might share a related idea, intervene when the discussion goes off track, or tie student comments together to help deepen student learning. Consequently, I will not directly answer questions in the discussion area unless they are addressed to me. I will check the discussions occasionally during the week.

Every week you are to submit one new posting that contains a summary with a link to or a copy of an article or other media regarding **dietary supplements** in the popular media. Only popular media sources are allowed in order to simulate the types of information patients readily have access to. In your discussion of this media post, you must present primary literature confirming or rebutting the media's statement. You must cite sources in the proper formatting.

You must also make at least 2 discussion entries on existing posts per week. These discussions can include opinions and beliefs but must be fact or evidence-based, therefore each post must show evidence of reviewing/reading the primary posts references in order to confirm or rebut the primary post.

Some characteristics I consider to be part of excellent discussion contributions are outlined below:

- Posts and responses should be thorough and thoughtful. Just posting "I agree" or "Good ideas" will not be considered adequate.
- Support statements with examples, experiences, AND references.
- Be brief. Keep each post to one or two paragraphs.
- Contributions to the discussions (posts and responses) should be complete and free of grammatical or structural errors.
- Posts should be on time.

Discussion Board Schedule

Assignment	Due Date
Discussion 1 Original Post TOPIC OF CHOICE	Wednesday 9/4 @ 11:59am (Noon)
Discussion 1 Comments (2)	Sunday 9/8 @11:59pm
Discussion 2 Original Post TOPICS: Diabetes, Cardiovascular/Omega 3's	Wednesday 9/18 @ 11:59am (Noon)
Discussion 2 Comments (2)	Sunday 9/22 @11:59pm
Discussion 3 Original Post TOPICS: Weight Loss	Wednesday 10/2 @ 11:59am (Noon)
Discussion 3 Comments (2)	Sunday 10/6 @11:59pm
Discussion 4 Original Post TOPICS: Migraine, Probiotics,	Wednesday 10/16 @ 11:59am (Noon)

Depression	
Discussion 4 Comments (2)	Sunday 10/20 @11:59pm
Discussion 5 Original Post TOPICS: Homeopathy	Wednesday 10/30 @ 11:59am (Noon)
Discussion 5 Comments (2)	Sunday 11/3 @11:59pm
Discussion 6 Original Post TOPICS: Women's or Men's Health	Wednesday 11/13 @ 11:59am (Noon)
Discussion 6 Comments (2)	Sunday 11/17 @11:59pm

3a. Other policies

- Assignment policy – All assignments are due on the date noted.
- Make-up quiz policy – On an as needed basis with reasonable excuse for absence.
- Late assignments – 10% deduction of points per 24 hrs late.
- Subject-to-change notice – ***This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.*
- There is no final exam for this course

4. Use of Blackboard in class

In this class I use *Blackboard*.

VI. Grades will be based on:

A	>= 95%
A-	90 - 94.9%
B	85 – 89.9%
B-	80 - 84.9%
C	75 – 79.9%
C-	70 – 74.9%
D	65 – 69.9%
F	< 65%

VII. Academic Integrity

University of Texas Honor Code

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Each student in this course is expected to abide by the University of Texas Honor Code. **[See the UT Honor Code above.]** Any work submitted by a student in this course for academic credit will be the student's own work.

You are encouraged to study together and to discuss information and concepts covered in lecture and the sections with other students. You can give "consulting" help to or receive

"consulting" help from such students. However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in the form of an e-mail, an e-mail attachment file, a diskette, or a hard copy.

Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment. Penalty for violation of this Code can also be extended to include failure of the course and University disciplinary action.

During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the examinations will result in failure of the exam, and may lead to failure of the course and University disciplinary action.

IX. Other University Notices and Policies

Use of E-mail for Official Correspondence to Students

- All students should become familiar with the University's official e-mail student notification policy. It is the student's responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily, but at a minimum, twice per week. The complete text of this policy and instructions for updating your e-mail address are available at <http://www.utexas.edu/its/help/utmail/1564>.

Documented Disability Statement

Any student with a documented disability who requires academic accommodations should contact Services for Students with Disabilities (SSD) at (512) 471-6259 (voice) or 1-866-329-3986 (video phone). Faculty are not required to provide accommodations without an official accommodation letter from SSD. (*Note to Faculty: Details of a student's disability are confidential. Faculty should not ask questions related to a student's condition or diagnosis when receiving an official accommodation letter.*)

- Please notify me as quickly as possible if the material being presented in class is not accessible (e.g., instructional videos need captioning, course packets are not readable for proper alternative text conversion, etc.).
- Please notify me as early in the semester as possible if disability-related accommodations for field trips are required. Advanced notice will permit the arrangement of accommodations on the given day (e.g., transportation, site accessibility, etc.).

- Contact Services for Students with Disabilities at 471-6259 (voice) or 1-866-329-3986 (video phone) or reference SSD's website for more disability-related information: http://www.utexas.edu/diversity/ddce/ssd/for_cstudents.php

Behavior Concerns Advice Line (BCAL)

If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit <http://www.utexas.edu/safety/bcal>.

Q drop Policy

The State of Texas has enacted a law that limits the number of course drops for academic reasons to six (6). As stated in Senate Bill 1231:

“Beginning with the fall 2007 academic term, an institution of higher education may not permit an undergraduate student a total of more than six dropped courses, including any course a transfer student has dropped at another institution of higher education, unless the student shows good cause for dropping more than that number.”

Emergency Evacuation Policy

Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation:

- Familiarize yourself with all exit doors of the classroom and the building. Remember that the nearest exit door may not be the one you used when you entered the building.
- If you require assistance to evacuate, inform me in writing during the first week of class.
- In the event of an evacuation, follow my instructions or those of class instructors.

Do not re-enter a building unless you're given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.

A Word about Conduct in a College Classroom

To make our time together as valuable as possible, we all have to work hard at it. The following basic principles may give us some guidelines:

Every student has the *right* to learn as well as the *responsibility* not to deprive others of their right to learn.

Every student is accountable for his or her actions.

In order for you to get the most out of this class, please consider the following:

- a. Attend all scheduled classes and arrive on time.

Late arrivals and early departures are very disruptive and violate the first basic principle listed above.

- b. Please do not schedule other engagements during this class time.
You probably wouldn't appreciate it if I did! I will try to make class as interesting and informative as possible, but I can't learn the material for you.
- c. If you have trouble hearing the lecture or media presentation because of distractions around you, quietly ask those responsible for the distraction to stop.
If the distraction continues, please let me know. It is often impossible for me to hear such things from my position in the classroom.
- d. Please let me know immediately if you have any problem that is preventing you from performing satisfactorily in this class.

I am looking forward to working with you this semester.

(Lasorsa, 1990)