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).

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.

Course 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 is an online course and does not meet at a scheduled time. This course follows the Academic calendar with content starting on the first day of class for the respective semester and ending on the last day of classes for that semester. There is no final exam. In order to progress through the content of this online course, it is important to remain diligent about your work.

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.**

ALL ASSIGNMENTS DUE BY FRIDAY 12/8/17.

| Module 1: | DSHEA & the History of Herbal/Supplement Regulation | **READ:** Handbook of Nonprescription Drugs Chapter 50. Introduction to Dietary Supplements  
**READ:** Tyler’s Herbs of Choice Appendix: The herbal regulatory system pg. 223-236 | QUIZ |
| --- | --- | --- | --- |
| Module 2: | MULTIVITAMINS Drug-Induced Nutrient Depletions | **READ:** Handbook of Nonprescription Drugs Chapter 22. Essential and Conditionally Essential Nutrients (Nutrient Supplementation Section)  
**READ:** Vitamin and Mineral Supplements in the Primary Prevention of Cardiovascular Disease and Cancer: An Updated Systematic Evidence Review for the U.S. Preventive Services Task Force. Annals of Internal Medicine. | QUIZ |
| Module 3: | HEADACHES AND MIGRAINES  
- Butterbur  
- Peppermint  
- Feverfew  
- Willow Bark  
- Magnesium | **READ:** Handbook of Nonprescription Drugs Chapter 51: Natural Products  
**READ:** Tyler’s Herbs of Choice Chapter 7: pgs 136 - 140 | QUIZ |
| Module 4: | DIGESTIVES & PROBIOTICS  
- Dyglycyrrhizinized licorice  
- Ginger  
- Bromelain | **READ:** Handbook of Nonprescription Drugs Chapter 51: Natural Products  
**READ:** Tyler’s Herbs of Choice Chapter 3  
**READ:** Probiotics for the Prevention and Treatment of Antibiotic-Associated Diarrhea: A Systematic Review and Meta-analysis | QUIZ |
| Module 5: | CARDIOVASCULAR DISEASE  
- Red Yeast Rice  
- Garlic  
- Policosanol  
- Omega Fatty Acids | **READ:** Handbook of Nonprescription Drugs Chapter 51: Natural Products  
**READ:** Tyler’s Herbs of Choice Chapter 8: pgs 160-162  
**READ:** Tyler’s Herbs of Choice Chapter 6: Arteriosclerosis Only pg. 94-102 | QUIZ & STUDY SUMMARY |
| Module 6: | MEN & WOMEN’S HEALTH  
- Saw Palmetto  
- Yohimbine  
- Chrysin  
- Creatine  
- Black Cohosh  
- Soy/Flaxseed | **READ:** Men’s - Tyler’s Herbs of Choice (Chapter 4: pgs 68-73, Chapter 7: pgs 143-145)  
**READ:** Women’s - Tyler’s Herbs of Choice (Chapter 4: pgs 65-68, Chapter 8: pgs 151-159)  
**READ:** Handbook of Nonprescription Drugs | QUIZ |
| Module 7: | MENTAL HEALTH  
- St John's Wort  
- Passionflower  
- Camomile  
- SAMe  
SLEEP/INSOMNIA  
- Melatonin | Chapter 5: Natural Products  
READ: Handbook of Nonprescription Drugs  
Chapter 51: Natural Products | QUIZ |
| --- | --- | --- | --- |
| Module 8: | WEIGHT LOSS  
- HCG  
- Green Tea  
- Ginseng  
- Hoodia  
- Sensa | READ: Handbook of Nonprescription Drugs  
Chapter 26: Overweight and Obesity &  
Chapter 51: Natural Products | QUIZ |
| Module 9: | HOMEOPATHY  
- Oscillococcinum  
- Arnica  
- Calendula  
- Chamomilla | READ: Handbook of Nonprescription Drugs  
Chapter 52: Homeopathy  
Extracurricular Reading: Chapter 52 -  
Naturopathy, Chinese Medicine,  
Chiropractic Care, Ayurveda, Massage | QUIZ |
| Module 10: | DIABETES  
- Chromium  
- Cinnamon  
- Alpha Lipoic Acid | READ: Handbook of Nonprescription Drugs  
Chapter 51: Natural Products | QUIZ & STUDY SUMMARY |
| Module 11: | ALLERGY & IMMUNE  
- Zinc  
- Stinging Nettle  
- Quercetin  
- Bromelain | READ: Handbook of Nonprescription Drugs  
Chapter 51: Natural Products | QUIZ |
VI. Course Requirements:

1. Course Readings/Materials:
   (a) **Required Textbook**: Handbook of Nonprescription Drugs 17th Edition. Available online. Chapters 50, 51, 52 etc.
   (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](http://www.lib.utexas.edu) ) Search: Herbs of Choice
   (c) Other articles readings will be uploaded to Canvas during the semester.
   (d) Sometimes, resources are best presented as a video. Online access is required.

2. Other policies
   - Assignment policy – All assignments are due on the date/time noted.
   - Make-up exam 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 *Canvas* in class
   In this class I use Canvas—a Web-based course management system with password-protected access at [http://canvas.utexas.edu](http://canvas.utexas.edu)—to distribute course materials, to communicate and collaborate online, to post grades, to submit assignments, and to give you online quizzes and surveys. You can find support in using Canvas at the ITS Help Desk at 475-9400, Monday through Friday, 8 a.m. to 6 p.m., so plan accordingly.
VII. ASSIGNMENT DETAILS

A. Supplement Clinical Study Summary Table
You are to find 1 primary piece of literature of one the supplements listed in the respective Google Doc for both Module 5 and Module 10. You will summarize the study using the template provided below. The goal is that you have a repository of primary literature references (including common preparations, doses, efficacy, and adverse events) in table format for a wide array of herbal supplements upon completion of the course. Use the appropriate Collaborations in Canvas.

B. 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. This assignment consists of 2 parts:

1. 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 at least 2 pieces of primary literature confirming or rebutting the media’s statement. You must cite sources in the proper formatting.

2. You must also make at least 1 discussion entry on existing posts. 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.
- References should follow a professional format as if you were citing in a professional journal.
VIII. Grades will be based on:

A  $\geq 89.5\%$
B  79.5 – 89.4%
C  69.5 – 79.4%
D  64.5 – 69.4%
F  < 64.4%

<table>
<thead>
<tr>
<th>Assessment/Assignment</th>
<th>Points</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Study Summary (Module 5)</td>
<td>10</td>
<td>Complete using template given</td>
</tr>
<tr>
<td>Clinical Study Summary (Module 10)</td>
<td>10</td>
<td>Complete using template given</td>
</tr>
<tr>
<td>Online Discussion Post #1</td>
<td>20</td>
<td>Post an online media discussion of an herbal product with your review</td>
</tr>
<tr>
<td>Online Discussion Post Response #1</td>
<td>5</td>
<td>Respond to a classmates post</td>
</tr>
<tr>
<td>Quizzes</td>
<td>110</td>
<td>Weekly quizzes on readings and online lectures (5)</td>
</tr>
</tbody>
</table>
IX. 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.

X. 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
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)