Class Meets: This course is web-based. It does not meet at a specified time or place. Students work through the course modules at their own pace within the required deadlines.

Coordinator: Nathan D. Pope, Pharm.D. (Dr. Pope)  
Office: PHR 3.208D

Pronouns: she/he/they/zhe  
Office hours: By appointment

Email: npope@austin.utexas.edu  
Phone: 512-471-5657

Course Description

University Catalog Course Description:
A practice-based approach to learning about the most common herbal and botanical supplements in a pharmacy practice setting, including review of studies of popular uses, clinical indications, pharmacological effects, mechanisms of action, side effects, contraindications, and common dosage guidelines. Discussion of the legal, regulatory, and ethical aspects, in addition to analyzing manufacturing quality issues and counterfeit products is also addressed.

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).


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

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.

How will I learn?

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.

Pre-requisites for the course:
Prerequisite: Pharmacy PharmD 282E (or Pharmacy 262D), 195Q (or Pharmacy163C), and 182F (or Pharmacy 172E).

How to succeed in this course:
This course is developed with the intent for all students to actively participate. This course is an elective and the hope is that you want to learn about this content. The more you participate, the more you will get from this course.
Course Requirements

Required Materials

- Course materials, references, readings, power point presentations, etc. will be placed the Canvas web site. Also on this site, you can access the course syllabus, selected readings, grades, and other course resources.
  - Sometimes, resources are best presented as a video. Online access is required.

Classroom expectations

Behavior expectations

**Course Communications**. Instructors will use Canvas, [https://canvas.utexas.edu/](https://canvas.utexas.edu/), as the primary means of communication for course information. Students should check Canvas well in advance of each class period for any assignments due for that class. All lecture materials and web sites needed to access information for class will be posted in Canvas. Course grades will also be posted in Canvas. You can find Canvas support through the Canvas website home page.

E-mail is recognized as an official mode of university correspondence; therefore, you are responsible for reading your e-mail for university and course-related information and announcements. You are responsible to keep the university informed about changes to your e-mail address. You should check your e-mail regularly and frequently—daily is recommended, but at minimum twice a week—to stay current with university-related communications, some of which may be time-critical. You can find UT Austin’s policies and instructions for updating your e-mail address at [http://www.utexas.edu/its/help/utmail/1564](http://www.utexas.edu/its/help/utmail/1564). Consequently “I didn’t see the e-mail” or returned mail and “Mailbox Full” or “user unknown” should not be a problem for any communication. Students are required to use their e-mail account that is part of their University record for course correspondence.

**Recordings**. Video recordings are made available by the College of Pharmacy, they are intended solely for the purpose of review by students currently enrolled in that class. Faculty and students utilizing video recordings should be careful to not compromise the privacy of either themselves or other users ([http://registrar.utexas.edu/students/records/ferpa](http://registrar.utexas.edu/students/records/ferpa)), or the rights of the presenter. Students are free to make their own recordings of lectures for personal use only unless specifically prohibited from doing so by the presenter. Any additional distribution of College - or student-generated recordings (regardless of format) is prohibited without the written and signed permission of the presenter and students identifiable on the recording.

Assignments

**Supplement Clinical Study Summary Table** (10 points each = 7% of course grade each)
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.

**Online Discussion Board** (20 points for original post/ 5 points for response = 14% and 4% of course grade respectively)
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.

**Grading for this Course**

The following table represents how you will demonstrate your learning and how we will assess the degree to which you have done so.

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points possible</th>
<th>Percent of Total Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clinical Study Summary (Module 5)</td>
<td>10</td>
<td>7%</td>
</tr>
<tr>
<td>2. Clinical Study Summary (Module 10)</td>
<td>10</td>
<td>7%</td>
</tr>
<tr>
<td>3. Online Discussion Post</td>
<td>20</td>
<td>14%</td>
</tr>
<tr>
<td>4. Online Discussion Post Response</td>
<td>5</td>
<td>4%</td>
</tr>
<tr>
<td>5. Quizzes (10)</td>
<td>100</td>
<td>68%</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>145</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Course Outline

All instructions, assignments, readings, rubrics and essential information will be on the Canvas website at https://utexas.instructure.com. Check this site regularly and use it to ask questions about the course schedule.

<table>
<thead>
<tr>
<th>Module</th>
<th>Topic</th>
<th>Readings &amp; Video Content</th>
<th>Assignments</th>
</tr>
</thead>
</table>
| 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 - dMagnesium | **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  
DISCUSSION: Supplements in the Media (Original post) |
| 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 Chapter 51: Natural Products | QUIZ |
| Module 7: | MENTAL HEALTH - St Johns Wort | **READ:** Handbook of Nonprescription Drugs Chapter 51: Natural Products | QUIZ  
DISCUSSION: |
<table>
<thead>
<tr>
<th>Supplements in the Media (Response post)</th>
</tr>
</thead>
</table>

### MODULES 5 – 7: DUE OCTOBER 31, 2018

#### 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, Masage

**QUIZ**

#### Module 10: DIABETES
- Chromium
- Cinnamon
- Alpha Lipoic Acid

**READ:** Handbook of Nonprescription Drugs Chapter 51: Natural Products

**QUIZ**

**STUDY**

**SUMMARY**

### MODULES 8 – 10: DUE NOVEMBER 30, 2018
**Statement on Learning Success**

Your success in this class is important to me. We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we’ll develop strategies to meet both your needs and the requirements of the course. I also encourage you to reach out to the student resources available through UT. Many are listed on this syllabus, but I am happy to connect you with a person or Center if you would like.

**Grading Policies**

<table>
<thead>
<tr>
<th>Grading Scale</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 - 100%</td>
</tr>
<tr>
<td>B</td>
<td>80 – 89.9%</td>
</tr>
<tr>
<td>C</td>
<td>70 – 79.9%</td>
</tr>
<tr>
<td>D</td>
<td>65 – 69.9%</td>
</tr>
<tr>
<td>F</td>
<td>&lt;65</td>
</tr>
</tbody>
</table>

Grades will be posted on Canvas.

**Late work**

Assignments: A penalty of 10% deduction from the assignment’s points will occur for every 24-hour period the assignment is late. For example, the period from 0-24 hours late is a 10% deduction, the period of 24-48 hours late is a 20% deduction, etc.

**Student Rights & Responsibilities**

- You have a right to a learning environment that supports mental and physical wellness.
- You have a right to respect.
- You have a right to be assessed and graded fairly.
- You have a right to freedom of opinion and expression.
- You have a right to privacy and confidentiality.
- You have a right to meaningful and equal participation, to self-organize groups to improve your learning environment.
- You have a right to learn in an environment that is welcoming to all people. No student shall be isolated, excluded or diminished in any way.

With these rights come responsibilities:

- You are responsible for taking care of yourself, managing your time, and communicating with the teaching team and with others if things start to feel out of control or overwhelming.
- You are responsible for acting in a way that is worthy of respect and always respectful of others. Your experience with this course is directly related to the quality of the energy that you bring to it, and your energy shapes the quality of your peers’ experiences.
- You are responsible for creating an inclusive environment and for speaking up when someone is excluded.
- You are responsible for holding yourself accountable to these standards, holding each other to these standards, and holding the teaching team accountable as well.

**Personal Pronoun Preference**

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student’s legal name. I will gladly honor your request to address you...
by a name different than what appears on the roster, and by the gender pronouns you use. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

**University Policies**

**Academic Integrity**

Each student in the course is expected to abide by the University of Texas Honor Code: “As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity.” **Plagiarism is taken very seriously at UT.** Therefore, if you use words or ideas that are not your own (or that you have used in previous class), you must cite your sources. Otherwise you will be guilty of plagiarism and subject to academic disciplinary action, including failure of the course. You are responsible for understanding UT’s Academic Honesty and the University Honor Code which can be found at the following web address: [http://deanofstudents.utexas.edu/sjs/acint_student.php](http://deanofstudents.utexas.edu/sjs/acint_student.php)

**Q Drop Policy**

If you want to drop a class after the 12th class day, you’ll need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution. For more information, see: [http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop](http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop)

**University Resources for Students**

Your success in this class is important to me. We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we’ll develop strategies to meet both your needs and the requirements of the course. There are also a range of resources on campus:

**Services for Students with Disabilities**

This class respects and welcomes students of all backgrounds, identities, and abilities. If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with me, or if you need specific arrangements in case the building needs to be evacuated, please let me know. I am committed to creating an effective learning environment for all students, but I can only do so if you discuss your needs with me as early as possible. I promise to maintain the confidentiality of these discussions. If appropriate, also contact Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329-3986 (video phone). [http://ddce.utexas.edu/disability/about/](http://ddce.utexas.edu/disability/about/)

**Counseling and Mental Health Center**

Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. [http://www.cmhc.utexas.edu/individualcounseling.html](http://www.cmhc.utexas.edu/individualcounseling.html)

**The Sanger Learning Center**

Did you know that more than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance? All students are welcome to take advantage of Sanger Center’s classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas. For more information, please visit [http://www.utexas.edu/ugs/slcc](http://www.utexas.edu/ugs/slcc) or call 512-471-3614
Imp

**Important Safety Information:**
If you have concerns about the safety or behavior of fellow students, TAs or Professors, call BCAL (the Behavior Concerns Advice Line): 512-232-5050. Your call can be anonymous. If something doesn’t feel right – it probably isn’t. Trust your instincts and share your concerns.

**Title IX Reporting**
Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence and stalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms. When sexual misconduct occurs in our community, the university can:

1. Intervene to prevent harmful behavior from continuing or escalating.
2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation.
3. Investigate and discipline violations of the university’s relevant policies.

Faculty members and certain staff members are considered “Responsible Employees” or “Mandatory Reporters,” which means that they are required to report violations of Title IX to the Title IX Coordinator. **I am a Responsible Employee and must report any Title IX related incidents** that are disclosed in writing, discussion, or one-on-one. Before talking with me, or with any faculty or staff member about a Title IX related incident, be sure to ask whether they are a responsible employee. If you want to speak with someone for support or remedies without making an official report to the university, email advocate@austin.utexas.edu For more information about reporting options and resources, visit titleix.utexas.edu or contact the Title IX Office at titleix@austin.utexas.edu.

The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, [http://www.utexas.edu/safety/](http://www.utexas.edu/safety/)

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at: [www.utexas.edu/emergency](http://www.utexas.edu/emergency)