

## **Medicinal Plants**

**Historical and cultural aspects of plants and medicine, therapeutic uses of plants, psychoactive and food plants, contribution of medicinal plants to modern medicine, future of medicinal plants**

### **Syllabus**

Fall Semester, 2012

**Instructor:** Leslie Gunatilaka [leslieg@cals.arizona.edu](mailto:leslieg@cals.arizona.edu)

**Office:** 1. Southwest Center for Natural Products Research (NPC)  
250 E. Valencia Rd.  
Tel: 621-9932

**(Available at NPC on any week day by appointment)**

2. Office of Arid Lands (OALS)  
1955 E. Sixth St, Rm. 115

**(Available at OALS during Office Hours on Tuesdays & Thursdays 4:00–5:00 pm by appointment)**

### **Overview**

**Class time and location:** Tuesdays and Thursdays, 6:00-7:15 PM, Modern Languages Rm. 312

**Prerequisite:** General Chemistry (101a-101b)

**Course Description:** This course is designed to provide an appreciation for the contribution of plants to traditional (alternative) and modern medicines worldwide. In order to achieve this, we will examine: historical and cultural aspects of plants and medicine, therapeutic uses of plants, illnesses caused by some plants and their toxins to humans and animals, psychoactive plants, beneficial effects of some food plants, contribution of medicinal plants to alternative and modern medicines, some medicinal plants of the U.S. Southwest, and the future of medicinal plants.

### **Major Lecture Topics**

1. Introduction and overview
2. History of use of plants to cure diseases
3. Traditional systems of medicine which use medicinal plants
4. Therapeutic uses of plants
5. Pharmacognosy, ethnopharmacology, and chemistry of medicinal plants
6. Psychoactive plants

7. Ailments caused by some plants to humans and animals
8. Beneficial effects of some food plants
9. Contribution of medicinal plants to alternative and modern medicine
10. Medicinal Plants of the American and Mexican West
11. Future of medicinal plants

**Text/Major Sources:** There is no required text for this course. Summaries of some lectures will be handed out. Copies of selected scientific papers will also be provided and/or made available on this web site. For additional recommended reading material see list provided.

## Course Expectations and Grading Policies

All students are strongly encouraged to attend all class meetings, participate in discussions, and complete assigned readings before each class meeting ([Examination Schedule and Grading](#)).

### Undergraduates

Examinations for undergraduate students will differ from those for graduate students and will consist of:

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|--------------|--|
| 2 quizzes    | <ul style="list-style-type: none"><li>• 20 min. each</li><li>• 12.5% of final grade each</li></ul>   |
| Midterm Exam | <ul style="list-style-type: none"><li>• 50 min.</li><li>• short answer and essay type questions drawn from concepts developed in lectures and discussions</li><li>• 25% of final grade</li></ul>   |
| Final Exam   | <ul style="list-style-type: none"><li>• 2 hrs.</li><li>• short answer and essay type questions drawn from concepts developed in lectures and discussions</li><li>• 25% of final grade</li></ul>  |
| Term Paper   | <ul style="list-style-type: none"><li>• 5–10 pages, double spaced, including references, on an approved topic on medicinal plants</li><li>• involves library and/or internet research that integrates concepts developed in lectures</li><li>• first draft of the paper will be reviewed and edited, and students are expected to respond to the comments provided when preparing their final paper for grading due dates (see Course Outline)</li><li>• objectives:<ul style="list-style-type: none"><li>○ allow the student to become more knowledgeable in some specific aspect of medicinal plants</li></ul></li></ul> |

- provide the student some practice and feedback on writing
- 25% of final grade: grade based on timeliness (10%), organization and style (30%), and content (60%)

## Graduates

Graduate students will be assigned special readings on various topics on medicinal plant research. Photocopies of these papers will be handed over periodically

Examinations for graduate students will differ from those for undergraduate students and will consist of:

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| 2 quizzes          | <ul style="list-style-type: none"> <li>• 20 min. each</li> <li>• 5% of final grade each</li> </ul>  |
| Midterm Exam       | <ul style="list-style-type: none"> <li>• 50 min.</li> <li>• short answer and essay type questions drawn from concepts developed in lectures and discussions</li> <li>• 25% of final grade</li> </ul>  |
| Final Exam         | <ul style="list-style-type: none"> <li>• 2 hrs.</li> <li>• short answer and essay type questions drawn from concepts developed in lectures and discussions and from assigned special readings</li> <li>• 25% of final grade</li> </ul>  |
| Critical Summaries | <ul style="list-style-type: none"> <li>• on each assigned reading</li> <li>• 2 - 3 pages, double spaced, in your own words</li> <li>• due dates (see Course Outline)</li> <li>• objectives:               <ul style="list-style-type: none"> <li>○ allow the student to become more knowledgeable in some specialized aspect of medicinal plants</li> <li>○ provide the student some practice and feedback on critical reading of published literature</li> </ul> </li> <li>• 20% of final grade (for all 4 critical summaries): grade based on timeliness (10%), style (30%), and content (60%)</li> </ul> |
| Oral presentation  | <ul style="list-style-type: none"> <li>• 15 min., followed by 5 min. discussion</li> <li>• involves library and/or internet research that integrates concepts developed in lectures</li> <li>• 20% of final grade: grade based on organization of subject matter</li> </ul>   |

(25%), clarity of presentation (50%) and ability to answer questions (25%)

## **Undergraduates and Graduates**

All exams are cumulative. If you know you will miss an exam, inform the instructor at least a week in advance to make the necessary arrangements. Missed exams necessitated by an illness can be made up within 7 days of the exam date, although make-up exams may be more rigorous than the original exam.

Assignment of final grade will not be based on any preconceived thresholds for letter grades, but roughly follows: > 90% = A; 80-89% = B; 70-79% = C; 60-69% = D; < 60% = E.

## **Attendance, absences, and classroom conduct**

You are expected to attend all lecture sessions. If an absence is anticipated, you must inform the instructor of the time and reason for the absence in advance. Special arrangements to present information missed while absent may be made by the instructor only under these circumstances. While in class you are expected to conduct yourself in a manner conducive to learning and in a way that does not interfere with other students' concentration.

## **Special student needs and accommodations**

If you need special accommodations or services contact the Disability Resource Center, 1224 E Lowell Street, (621-3268; [drc-info@email.arizona.edu](mailto:drc-info@email.arizona.edu)) or the Strategic Alternative Learning Techniques (SALT) Center, 1010 N. Highland Ave. (621-8493). We will do everything we can to accommodate your needs in order to enhance your learning experience, but we must know beforehand.

## **Academic integrity**

You are encouraged to share intellectual views and discuss freely the principles and applications of the course materials. However, graded classroom and homework exercises must be executed independently, except as noted by the instructor. This course operates under the Code of Academic Integrity described in the University of Arizona 2012-2013 General Catalog at the web-site (<http://deanofstudents.arizona.edu/policiesandcodes/codeofacademicintegrity>).

## **Course Withdrawal**

Students withdrawing from this course must notify the instructor prior to nonattendance in classes and execute drop or withdrawal procedures in accordance with the UA General Catalog. Any student failing to attend class in two or more successive classes is subject to automatic withdrawal if arrangements have not been made between student and instructor.

## **Incomplete Policy**

Any incomplete grade given must be verified with a written agreement with the student that specifies the work to be done and a timetable for completion.

## **Personal Privacy**

It may be impossible to completely maintain the anonymity of individual students taking this course relative to grades given on assignments or exams, or final grades at the completion of this course. The last four digits of each student's ID number will be used in place of their name in an attempt to maintain anonymity. It is the student's responsibility to insure that this identification number remains confidential as the possibility exists that this number and the grade(s) associated with it will be available on bulletin boards in areas open to the general public.

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