BIOLOGY 470: SEMINAR IN BIOLOGY

MEDICINAL PLANTS AS A SOURCE OF NATURAL MEDICINES

SPRING 2016

Instructor: Dr. Dennis Gravatt, Office S239, Phone 468-2418, email dgravatt@sfasu.edu
Office Hours: MW 1:30pm-3:00pm; TR 8am-9am.

Course Description:

Biology 470 is designed to teach students how to research, prepare and present a seminar on a specific topic. Biology 470 is a one semester hour credit course. This section involves the study of medicinal plants. Virtually all societies use plants for medicinal purposes. Furthermore, many naturalists and physicians well into the twentieth century at least dabbled in herbal medicine. Medical plants and the search for new ones have spurred exploration and commerce from ancient times to the present. Plants produce a vast array of chemicals (phytochemicals) which affect animals: some are poisons, others attract pollinators or repel insects, still others modify animal behavior in other ways, and a few, presumably without the intent of the plant, are of obvious medical benefit. Through student presentations this class will examine some of these chemicals from the standpoint of the natural history of plants and the development of plant derived drugs. In the course of putting your presentation together you will be should address as many of the following topics listed below:

1. Culture and historical use of the medicinal plant
2. Preparation
3. Chemical nature
4. Physiological effects
5. Medicinal uses
6. Plus any other areas of interest

Examples of suitable topics are given below. Your topic must be cleared by your instructor. Do some library work before settling on a topic. Obtaining references can be a slow and frustrating experience if you choose the wrong topic or fail to plan ahead. Here are some areas that you may want to research:

1. Digitalis
2. Morphine
3. Quinine
4. Taxol

Plus, many more important compounds and the plant species from which they are derived

It will be necessary to make good use of the library in researching your topic. Please contact your instructor if you are experiencing any difficulty in obtaining reference materials. The library has a wide range of searchable databases for accessing research articles. There is a Life Sciences librarian available to you in the Steen Library who may also be of help as a source.
A minimum of 10 journal articles must be used in preparation of the presentation. Books and web pages can also be used, but cannot be counted towards the 10 required references. A complete bibliography must be turned in to the instructor on the day of the seminar. For each journal article be sure to include the author(s), year of publication, title of article, journal name, volume and page numbers. For books list author(s), year of publication, title, publisher, location of publisher, and number of pages. For internet web sites, list the internet address (URL) and the author (if available). A photocopy of the first page of each reference will be turned in at the time of your presentation. Failure to do so will result in the loss of 25 points from your reference grade.

Each presentation should be between 15 to 20 minutes long. You will be penalized 2 points for each minute under 15 minutes or each minute over 20 minutes. It is important to practice your talk prior to the seminar so that you fall within the required time limit. A computer projection system (with Power Point) will be available to use for your presentation. Students using PowerPoint will be required to consult with the instructor beforehand and meet with the instructor at least two days prior to the date of their seminar to work out any problems with file formatting and incompatibility.

Each student will be required to develop a list of 10 questions that will be answered during the seminar, and provide copies for everyone. Questions for the final exam will be taken directly from these question sheets.

**Important Dates:**

**March 1st**  
**Subject and Abstract:** I require you to submit the proposed subject (or tentative title) and a brief synopsis in the form of a paragraph of what topic you plan on presenting. This should be TYPED on a sheet of paper along with at least 5 references for approval before continuing with your presentation. This abstract and attached references (first page of each) will be **due on or before March 1st**. You will lose 10 points for each day that it is late this includes the weekend days and holidays as well!

**Grading Policy:**

- Student presentation: 100 points
- Exam over all seminars: 100 points
- Abstract and reference list: 50 points
- Participation (attendance and discussion): 50 points

Ten participation points will be subtracted for each absence. Students who fail to ask questions and participate in the discussions risk losing 25 of their participation points.

Course grade will be assigned based on a point system as follows:

270-300 points = A; 240-269 = B; 210-239 = C; 180-209 = D; Below 179 = F

There are no extra credit assignments in this course.
**Biology Special Fields Test:**

The Biology Department requires that all majors take the special fields test before they graduate. Taking this test is therefore a requirement for Biology 470. You will be provided an opportunity to sign up to take this on-campus test. Students failing to take the test will receive a withheld grade (WH) for the course.

**End-of-Semester Course Evaluations**

As suggested by the University Provost, in accordance with the College of Sciences and Mathematics, and adopted by the Department of Biology the completion of an end-of-semester on-line student evaluation is required by all students enrolled in this course. Any student that does not participate by completing the on-line evaluation will have one percentage point deducted from their lecture average (e.g., 90% - 1% = 89% for their lecture average).

**Mandatory Library Workshop:**

This class will meet Monday, Feb 1st during the normal class time (5:00pm-6:15pm), in room 134A, Miller Science. This is a mandatory introduction to searching library resources. Failure to attend will result in the loss of 10 participation points.

**Seminar Presentation Schedule:**

Three students will give their presentations during each of the last six class periods. Any additions or deletions will be posted outside of S120. It will be the responsibility of each student to check the schedule and attend each of the student seminar presentations. Each of the presentations will be on a Monday starting promptly at 5:00 pm.

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