INSTRUCTOR: Bala Rathinasabapathi, Ph.D.
Room 2247 Fifield Hall
Phone 352-392-1928 x 323
Section 5368
Lecture: Tue 10th period (5:10 PM – 6 PM);
Thu 10th and 11th period (5:10 PM – 7:05 PM)
Room 202, New Engineering Building
Lab: Take-home Projects, Hands on Activities and Writing.
Office hours: By Appointment; e-mail brath@ufl.edu
Course Homepage: http://www.hos.ufl.edu/sabaweb

Optional Textbook:

VEC2100 Course Packet – Notes & additional reading will be distributed in class or via e-mail.

Other References:

Articles from Florida Cooperative Extension Service and technical journals (Journal of the American Society of Horticultural Science, Economic Botany, Phytochemistry, Hortscience, and American Vegetable Grower)

Objective:
To introduce students to a variety of culinary herbs and vegetables from around the world. Emphasis will be placed on diversity as it relates to uses, cultivation, genetics and properties of vegetables and culinary herbs.

General Syllabus:
1. Role of Herbs and Vegetables in our Food
2. Classification of Herbs and Vegetables
3. Physiological basis for phytochemical diversity - carbohydrates, amino acids and proteins, lipids, vitamins, pigments and antioxidants, plant defense compounds - metabolic pathways and precursors from which they are derived.
4. Vegetables in human nutrition - food phytochemicals & their growing importance.
5. Vegetables in the Politics of Food.
6. Toxic substances in vegetables - cyanogenic glycosides, alkaloids, tannins, enzyme inhibitors, calcium oxalate - Examples for each.
8. Descriptive botanical knowledge on groups of major and minor vegetables: Solanaceae, Poaceae, Cruciferae, Euphorbiaceae, Dioscoreaceae, Araceae, Musaceae, Alliaceae, Asteraceae, Brassicaceae, Chenopodiaceae, Leguminosae, and Cucurbitaceae.
9. Specific discussions on current topics - Role of single gene mutations in breeding sweet corn cultivars, Role of polyploidy in the evolution of Brassicaceae vegetables, Use of transgenic technology in improving tomato and cucurbits, Organic vegetables and herbs, Role of biodiversity in vegetable improvement, breeding for food phytochemicals.
10. The debate over Genetically Modified Food.
11. Vegetable and Herb Gardening: Opportunities will be given for students to do container gardening of herbs.
12. Students will be provided with “activity packs” and asked to do the project at home and write reports about the activity.

**Learning Outcomes:**
By the completion of this course, the conscientious student should be able to
- Explain various classifications of vegetables and plants, parts of edible plants, origin and family characteristics for major vegetables
- Identify common and uncommon vegetables, herbs and spices
- Find information on the uses and nutritional value of vegetables and herbs
- Explain biological principles behind genetic improvement of crops
- Discuss current problems in the cultivation and use of vegetables and herbs
- Propagate and cultivate a vegetable garden
- Know how to critically analyze research on vegetables and herbs

**Format:**
3-credit course for majors and non-majors.

**Assignments:**
(a) Students will be assigned several activity-oriented mini-projects. The students need to turn in an activity report on each of them. (b) There will be one writing and class presentation assignment for groups of two students. The activities are designed to encourage critical thinking and communication skills and expose the students to current topics in this area.
**Evaluation:**
Students will be evaluated based on the following:

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class attendance</td>
<td>200</td>
<td>40 %</td>
</tr>
<tr>
<td>Writing &amp; Presentation</td>
<td>100</td>
<td>20 %</td>
</tr>
<tr>
<td>Activity reports</td>
<td>100</td>
<td>20 %</td>
</tr>
<tr>
<td>Quizzes/Tests</td>
<td>100</td>
<td>20 %</td>
</tr>
<tr>
<td>TOTAL</td>
<td>500</td>
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Grades for the course will be assigned according to established university policy.
90-100 = A  85-89 = B+  80-84 = B  75-79 = C+  70-74 = C  65-69 = D+

**Course policies and procedures**

1. Homework: Reports are due on the dates indicated. 10% deducted for incomplete homework or not on time by one week.

2. Late homework policy: Late homework may be handed in at the discretion of the instructor at the lab (following the day it is due) with a 20% penalty. No homework will be accepted after the final class meeting. If you are having trouble with homework, please see me immediately.

3. Test Makeups will be arranged in the case of an emergency and must be scheduled within a week of the original test and at the convenience of the instructor.

4. Follow all safety regulations in and out of the classroom. Opportunities will be available for students to taste novel and unusual vegetables. Food tasting is optional and personal safety is individual’s responsibility.

5. Students who are disruptive in the classroom will be noted down and their grades can be penalized by one letter grade for each occurrence. Cell phones should be turned off or set in vibrate mode during the class period. Non-emergency in-class text messaging is not acceptable.

6. By registering for classes, every student has signed the following statement: “I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty, and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University”. Honor Code violations in this course will not be tolerated, and may result in the assignment of a failing grade. Students observing an Honor Code violation should report them to the instructor immediately.

7. All faculty, staff and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such
violations are also against University policies and rules, disciplinary action will be taken as appropriate.

8. Resources are available on-campus for students having personal problems or lacking clear career and academic goals which interfere with their academic performance. These resources include: University Counseling Center (392-1575), Personal counseling at Student Mental Health (392-1171), Sexual Assault Counseling (392-1161) and Career Resource Center (392-1601).

**Schedule:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Aug 26, 2008 Tu</td>
<td>What’s this Course? Introduction, Syllabus, Activity Reports</td>
</tr>
<tr>
<td>Aug 28, Thu</td>
<td>Why study herbs and vegetables? (Aug 29 – Last day for drop/add)</td>
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<tr>
<td>Sep 2, Tue</td>
<td>A historical account of human use of plants</td>
</tr>
<tr>
<td>Sep 4, Thu</td>
<td>A historical account of human use of plants</td>
</tr>
<tr>
<td>Sep 9, Tue</td>
<td>Major &amp; minor vegetables, classification, vegetable industry</td>
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<tr>
<td>Sep 11, Thu</td>
<td>Vegetables and herbs in human nutrition</td>
</tr>
<tr>
<td>Sep 16, Tue</td>
<td>Health promoting properties of vegetables and herbs I</td>
</tr>
<tr>
<td>Sep 18, Thu</td>
<td>Health promoting properties of vegetables and herbs II</td>
</tr>
<tr>
<td>Sep 23, Tue</td>
<td>Culinary Herbs: Lamiaceae</td>
</tr>
<tr>
<td>Sep 25, Thu</td>
<td>Cool season Vegetables: Cauliflower, Cabbage, Collard</td>
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<tr>
<td>Sep 30, Tue</td>
<td>Cool season Vegetables: Cauliflower, Cabbage, Collard</td>
</tr>
<tr>
<td>Oct 2, Thu</td>
<td>Lettuce, Endive and Artichoke</td>
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<tr>
<td>Oct 7, Tue</td>
<td>Carrots and Umbelliferous Herbs</td>
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<tr>
<td>Oct 9, Thu</td>
<td>Vegetable Legumes I</td>
</tr>
<tr>
<td>Oct 14, Tue</td>
<td>Vegetable Legumes II</td>
</tr>
<tr>
<td>Oct 16, Thu</td>
<td>Potato</td>
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<tr>
<td>Oct 21, Tue</td>
<td>Tomato, Peppers and Eggplant</td>
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</table>
Oct 23, Thu  Tomato, Peppers and Eggplant
Oct 28, Tue  Cucumbers
Oct 30, Thu  Pumpkins and Squashes
Nov 4, Tue  Cassava
Nov 6, Thu  Banana and plantains
Nov 11, Tue  Veterans Day – No class
Nov 13, Thu  Sweet potato
Nov 18, Tue  Yams, Okra and Roselle
Nov 20, Thu  Spinach, Beet and Other Chenopods
Nov 25, Tue  Alliums: Onion, Garlic and Shallots
              No reports will be accepted after this date.
Nov 27, Thu  Thanksgiving – No class
Dec 2, Tue  Student presentations/Course evaluation
Dec 4, Thu  Student presentations
Dec 9, Tue  Student presentations (Last day of class)

**Planned Activities.** These will be announced in class with specific instructions. Some of the activities will be done in class, and others need to be carried out outside the classroom.

Activity 1. Resources on vegetables, herbs and gardening.
Activity 2. Preparation of herb bookmarks.
Activity 3. Propagation of herbs by cuttings
Activity 4. Production of alfalfa, bean and radish sprouts.
Activity 5. Container gardening
Activity 6. Identification of culinary herbs, spices and condiments.
Activity 7. Drawing up a fall vegetable garden for North Central Florida.
Activity 8. Production of vegetable transplants.