# Cover Sheet: Request 12138

## FOS4XXX

### Info

<table>
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<tr>
<th>Process</th>
<th>Course</th>
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<th>Ugrad/Pro</th>
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<tr>
<td>Status</td>
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<tr>
<td>Submitter</td>
<td>Paul Sarnoski <a href="mailto:psarnoski@ufl.edu">psarnoski@ufl.edu</a></td>
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<td>11/30/2017 11:31:17 AM</td>
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<td>Updated</td>
<td>2/23/2018 12:19:54 PM</td>
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<td>Description of request</td>
<td>New undergraduate course request.</td>
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### Actions

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<tr>
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<td>Department</td>
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<td>CALS - Food Science and Human Nutrition 514915000</td>
<td>Susan Percival</td>
<td></td>
<td>12/14/2017</td>
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<td>College</td>
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<td>Corrections and revisions requested by the CALS CC (1/12/18) have been addressed.</td>
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No document changes
Course|New for request 12138

Info

Request: FOS4XXX
Description of request: New undergraduate course request.
Submitter: Joel H Brendemuhl brendj@ufl.edu
Created: 2/23/2018 12:18:06 PM
Form version: 2

Responses
Recommended Prefix FOS
Course Level 4
Number XXX
Category of Instruction Advanced
Lab Code None
Course Title Flavor Chemistry
Transcript Title Flavor Chemistry
Degree Type Baccalaureate

Delivery Method(s) On-Campus
Co-Listing No
Co-Listing Explanation The course is not planned to be co-listed.
Effective Term Fall
Effective Year 2018
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 3
Course Description Students taking this class will learn how flavor chemicals impact sensory perception of food. We will also discuss flavor compounds used in foods, their production, isolation, analysis, and specific attributes.
Prerequisites (CHM2045(C) &amp; CHM2046(C)) &amp; CHM2200(C) or (CHM2210(C) &amp; CHM2211(C))
Co-requisites None

Rationale and Placement in Curriculum Flavor Chemistry is discipline within the broader fields of Food Chemistry and Food Science. This course is often offered at land grant institutions that offer Food Science as a degree option. Therefore this course should be taught in the Food Science and Human Nutrition department at UF. The course will prepare students to work in the Flavor and Fragrance Industry.
Course Objectives LO 1. Differentiate different classes of flavor compounds, their flavors, sources and interactions in foods.
LO 2. Classify different methods of flavor trapping, isolation and application.
LO 3. Communicate different methods of analysis for identification of flavor compounds and compare their applications, advantages and disadvantages.

Course Textbook(s) and/or Other Assigned Reading Food Flavour Technology, 2nd Edition. 2010. Andrew Taylor &amp; Robert Linforth Eds., Wiley-Blackwell. ISBN 9781405185431
Weekly Schedule of Topics Course Schedule
Week Topic
1 (8/19) Class Introduction. What is Flavor?
2 (8/26) What is Flavor? Flavor Impact Compounds, and Special Considerations During Flavor Creation
3 (9/2) What is Flavor (continued)
4 (9/9) Flavor Analysis – Isolation
Flavor Analysis – Isolation/Identification
Flavor Analysis - Identification
The Role of Sensory in Flavor Analysis
Sensory (continued)
Exam 1 (10/3/18 tentative)
Flavor Biotechnology (Biocatalysis, Fermentation, Regulatory Aspects)
Flavor Biotech (continued)
Dairy Flavors
Dairy Flavors/Survey of World Cheeses
Reaction Flavors
Plant Flavors (Fruit and Vegetable Flavor)
Plant Flavors (Fruit and Vegetable Flavor) (continued)
Flavor Release (if time permits)
Cumulative Take Home Exam

Links and Policies
The grading scale is consistent with the university policies on grading that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Make up Exam Policy/Late Assignments
Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Online Course Evaluation Process
Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results.

Academic Honesty
As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."
It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

Software Use:
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.

Campus Helping Resources
Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university’s counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.
University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
Counseling Services
Groups and Workshops
Outreach and Consultation
Self-Help Library
Wellness Coaching
• U Matter We Care, www.umatter.ufl.edu
• Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Services for Students with Disabilities
The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.
0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Student Complaints:
• Residential Course: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf

Grading Scheme
Exams (2) - 100 pts
Homework/Reports - 200 pts; Reports are due 7 days after conducting the experiment. Four homeworks and five in-class experiments will be conducted over the course of the semester. The homeworks consist of problem solving related to topics covered in class. Reports should include a description of the experiment performed, results, and discussion of the results. See the course schedule for a list of topics.
Final Exam – Cumulative Take Home Exam – 100 pts
Total: 500

Grading Scale
90-100% A
70-74.9% C
88-89.9% A-
68-69.9% C-
85-87.9% B+
65-67.9% D+
80-84.9% B
60-64.9% D
78-79.9% B-
58-59.9% D-
75-77.9% C+ Below 58% E

Instructor(s) Paul J. Sarnoski
FOS 4XXX - FLAVOR CHEMISTRY
Credits: 3
Offered Fall Semester of even years.
Class Meeting Times:
Monday Period 6
Wednesday Periods 6 & 7

Instructor:

Paul J. Sarnoski
Food Science and Human Nutrition Building (Rm 349)
Phone: 352-294-3732
EMAIL: psarnoski@ufl.edu

Office Hours
By appointment

Course Description
Students taking this class will learn how flavor chemicals impact sensory perception of food. We will also discuss flavor compounds used in foods, their production, isolation, analysis, and specific attributes.

Learning Objectives
LO 1. Differentiate different classes of flavor compounds, their flavors, sources and interactions in foods.
LO 2. Classify different methods of flavor trapping, isolation and application.
LO 3. Communicate different methods of analysis for identification of flavor compounds and compare their applications, advantages and disadvantages.

Course Prerequisites
General Chemistry: CHM 2045, CHM 2046 sequence (with labs): Need to meet a minimum C requirement for the courses specified or equivalent courses.

Organic Chemistry: CHM 2200 or CHM 2210, CHM 2211 sequence (with labs): Need to meet a minimum C requirement for the courses specified or equivalent courses.

FOS 4311 (Food Chemistry) and FOS 4321C (Food Analysis) are strongly recommended but not required

Course Outcomes
Students will be able to identify the role of flavor molecules in food, from both a sensory and food quality perspective. This will involve being able to identify the chemical structures of flavor compounds, and how those chemicals are produced from a synthetic or biological perspective. Themes will include the use of analytical chemistry to identify flavor compounds. Impacts of processing, packaging, and storage on flavor quality and stability will be covered.
Grading Scheme
Exams (2) - 100 pts each
Homework/Reports - 200 pts;
*Reports are due 7 days after conducting the experiment. Four homeworks and five in-class experiments will be conducted over the course of the semester. The homeworks consist of problem solving related to topics covered in class. Reports should include a description of the experiment performed, results, and discussion of the results. See the course schedule for a list of topics.*
Final Exam – Cumulative Take Home Exam – 100 pts
**Total:** 500

Grading Scale

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<thead>
<tr>
<th>Grade</th>
<th>Range 1</th>
<th>Range 2</th>
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</thead>
<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
<td>70-74.9%</td>
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<tr>
<td>88-89.9%</td>
<td>A-</td>
<td>68-69.9%</td>
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<tr>
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<td>B+</td>
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</tr>
<tr>
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<td>B</td>
<td>60-64.9%</td>
</tr>
<tr>
<td>78-79.9%</td>
<td>B-</td>
<td>58-59.9%</td>
</tr>
<tr>
<td>75-77.9%</td>
<td>C+</td>
<td>Below 58%</td>
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E-Learning (Canvas)
An E-Learning course site has been developed for this course. Lecture slides, readings, homeworks, report instructions, and due dates are posted there. Make sure to check the course site regularly.

Required Text

Recommended Supplemental Reading

Attendance and Make-Up Work
This class will not be a strict lecture format. Everyone is expected to contribute to the discussion of the material, conduct experiments, and attend class. We will be performing in-class experimental work (sensory analysis, flavor replication, etc.) on a semi weekly basis.

Make up Exam Policy/Late Assignments
Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at: [https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx](https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx)
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<tr>
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<th>Topic</th>
<th>Readings</th>
<th>Critical Dates</th>
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<tr>
<td>1 (8/19)</td>
<td>Class Introduction. What is Flavor?</td>
<td>Ch. 1 &amp; 2</td>
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<tr>
<td>2 (8/26)</td>
<td>What is Flavor? Flavor Impact Compounds, and Special Considerations During Flavor Creation</td>
<td>Ch. 1 &amp; 2</td>
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<td>3 (9/2)</td>
<td>What is Flavor (continued) (No class 9/3)</td>
<td>Ch. 1 &amp; 2</td>
<td>Vanilla Flavored Soymilk Replication Report Due</td>
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<td>4 (9/9)</td>
<td>Flavor Analysis – Isolation</td>
<td>Ch. 9</td>
<td>HW 1 Due</td>
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<td>5 (9/16)</td>
<td>Flavor Analysis – Isolation/Identification</td>
<td>Ch. 9</td>
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<td>6 (9/23)</td>
<td>Flavor Analysis - Identification</td>
<td>Ch. 9</td>
<td>HW 2 Due</td>
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<td>7 (9/30)</td>
<td>The Role of Sensory in Flavor Analysis</td>
<td>Ch. 11</td>
<td>Time-Intensity Analysis; HW 3 Due</td>
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<td>8 (10/7)</td>
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<td>Ch. 11</td>
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<td>9 (10/14)</td>
<td>Flavor Biotechnology (Biocatalysis, Fermentation, Regulatory Aspects)</td>
<td>Ch. 4</td>
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<td>10 (10/21)</td>
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<td>Ch. 4</td>
<td>Fermentation and Flavor Production Report Due</td>
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<td>11 (10/28)</td>
<td>Dairy Flavors</td>
<td>Ch. 5</td>
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<td>12 (11/4)</td>
<td>Dairy Flavors/Survey of World Cheeses</td>
<td>Ch. 5</td>
<td>Cheese Descriptive Analysis Report Due</td>
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<td>13 (11/11)</td>
<td>Reaction Flavors – (No class 11/12)</td>
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<td>14 (11/18)</td>
<td>Plant Flavors (Fruit and Vegetable Flavor) – (No class 11/23)</td>
<td>Ch. 4 &amp; 5</td>
<td>Make Your Own Aroma Report Due</td>
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<td>Ch. 4 &amp; 5</td>
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<td>16 (12/2)</td>
<td>Flavor Release (if time permits)</td>
<td>Ch. 8</td>
<td><strong>Exam 2 (12/5/18)</strong></td>
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<td>Finals</td>
<td>Cumulative Take Home Exam</td>
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University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/

- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Wellness Coaching

- U Matter We Care, www.umatter.ufl.edu
- Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

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