

## FOOD SCIENCE 5720 – Food Product Development

SEMESTER: Fall  
TIME: TBD  
LOCATION: Lectures: 120 Parker Food Science Building  
Laboratory: FST Pilot Plant (Howlett Hall)

INSTRUCTOR: Christopher T. Simons  
OFFICE: 315 Parker Food Science Building  
PHONE: 688-1489  
EMAIL: [simons.103@osu.edu](mailto:simons.103@osu.edu)  
OFFICE HOURS: By Appointment

CO-INSTRUCTOR: John Litchfield (email)  
Ron Harris (email)

TAs:	TBD	TBD
OFFICE:	TBD	TBD
EMAIL:	TBD	TBD
OFFICE HOURS:	TBD	TBD

TEXTBOOKS: No Required Textbooks

RESERVE MATERIALS (Agriculture Library)

Smith J, Charter E 2010 Functional food product development. IFT Press, Wiley-Blackwell, Indianapolis, IN

Moskowitz H R, Saguy I M, Strauss T eds. 2009 An integrated approach to new product development. CRC Press, Boca Raton, FL.

Brody A L, Lord J B 2008 Developing new food products for a changing market place., 2nd ed. CRC Press, Boca Raton, FL.

Mc Fie H 2007 Consumer led food product development. CRC Press, Boca Raton, FL

Fuller, G. W. 2004 New food product development: from concept to marketplace CRC Press, Boca Raton, FL

**Course Structure:** Students will be divided into Product Development Teams consisting of *ca.* 4 students as determined by the Instructor. Teams 1-6 will meet for lectures on Tuesdays and will work in the laboratory on Thursdays. Teams 7-12 will work in the laboratory on Tuesdays and meet for lectures on Thursdays.

**NOTE- Class will not divide until the week of...**

**Course Description & Philosophy:** The commercial end result of food science is the delivery of acceptable foods to consumers. This course will immerse students in the product development process using the product development team approach that is prevalent in the food industry. Students will be required to access resources in a variety of ways to acquire the knowledge necessary to successfully complete their project assignment. As in the industry, achievement of team goals will be rewarded.

Students will give attention to the three major components of food product development:

1. Development and evaluation of a food product concept.
2. Development of a protocept food product, including development of a HACCP plan, labeling, packaging and evaluation of product attributes, safety and shelf-life.
3. Market evaluation of the protocept product.

**Goals of this course:** Upon completion of this course, students should

1. be able to identify the processes and stages required to bring a new food product from conception to commercialization.
2. have produced in the laboratory a protocept of a new product that has a high probability that it could be produced commercially.
3. understand how to write a product formula and finished product specifications.
4. know what technical and scientific data must be available before a product can be manufactured.
5. be aware of the dynamics of working on a product development team.
6. develop skills necessary to communicate effectively to technical and business colleagues.

**Team Learning:** Much of the work in this class will be completed and turned in as a team. It is essential that each student contributes to the overall effort of the group and we suggest the group divides the responsibilities for each project. Moreover, successful teams have clear expectations that each member adheres to. Your team will be expected to come up with a set of expectations that all members will agree to.

### **Requirements.**

**Written Reports:** There will be three written reports to be submitted by each team. Written reports should be no more than 5 pages and should include supporting data and work. Written reports should delineate the process and details made by each team that contributed to the decisions leading to the current status. Specific instructions as to what information should be included in each report will be handed out in lecture.

- Written Report 1: Concept Development
- Written Report 2: Protocept Development
- Written Report 3: Final prototype development and market potential assessment

**Oral Reports:** Teams will prepare 2 oral reports during the semester. Oral reports should be 20 minutes and the expected content will be described when the reports are assigned. Each member of the Team is expected to verbally present a portion of the report.

- Oral Report 1: Concept Development
- Oral Report 2: Final Product Report

**Problem Sets & Homework:** There will be 10 homework assignments—1 individual assignment and 9 team assignments. In most cases, teams will have time at the end of the lecture to work on homework assignments. Not all assignments can be completed by the end of lecture. It is expected that Teams will get together outside of class to finish assignments as needed. Even though most problem sets are to be turned in by Teams, you should be able to do the work independently—you might be quizzed on your ability to do so. In most cases homework will be used as supporting data for oral and written reports, thus take them seriously!

**Exams & Quizzes:** There are NO midterm or final examinations. Four quizzes will be given during the semester and cover materials presented in preceding lectures.

- Quiz 1: (Lectures 1-4)
- Quiz 2: (Lectures 5-7)
- Quiz 3: (Lectures 8-10)
- Quiz 4: (Lectures 11-13)

On the day of the quiz, ALL students should come to lecture for the first 15 min of class. When the quiz is finished, students in lab section will return to the laboratory to continue development work.

**Participation & Peer Review:** Successful projects require that all members of the Team contribute. Participation means attending all classes and being on time, being an equal partner in the activities of the group and entering into discussion during lectures and recitations. Teamwork is critical to the success of any project and listening and respect for others opinions is an important component of teamwork.

Team members are best positioned to evaluate the participation and teamwork of each other. Three times this semester, every student will turn in an evaluation of the other members of their team. Evaluations will be turned in directly to the Instructor and will be used in the computation of the Final Grade. Peer reviews will be turned in following submission of the Team Reports.

## **Grading**

Oral Reports 15%

- Concept Brief (5%)
- Final Product (10%)

Written Reports	45%
• Report 1	(10%)
• Report 2	(15%)
• Report 3	(20%)
Quizzes	15%
Homework	10%
Participation & Peer Review	15%

Grading will be based on a curve, but the following scores are guaranteed.

90%	No less than a A-
80%	No less than a B-
70%	No less than a C-
60%	No less than a D-

### **Academic Misconduct**

Academic misconduct is defined in the Code of the Student Conduct and the Rules of the University Faculty. For more information, see the following websites [http://studentaffairs.osu.edu/info\\_for\\_students/csc.asp](http://studentaffairs.osu.edu/info_for_students/csc.asp) & <http://www.acs.ohio-state.edu/offices/oaa/procedures/1.0.html>. Suspected academic misconduct will be referred automatically to the Committee on Academic Misconduct as required by Faculty Rules.

### **Disability**

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the Office for Disability Services at 614-292-3307 in room 150 Pomerene Hall to coordinate reasonable accommodations for students with documented disabilities.