

FOS 4722C
QUALITY CONTROL IN FOOD SYSTEMS

Catalog Statement

FOS 4722C; Quality Control in Food Systems; 3 credits; Measurement and control of the major quality parameters of foods, including sensory, color and texture.

Instructors

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Office Hours -- Monday, Wednesday, Friday 8:30 - 10:00 or any other time when available

Topics Covered

- *Overview of Quality Control
- *Statistics in Quality Control
- *Sampling
- *Control Charts
- *Government Regulations
- *Sensory Analysis
- *Texture Analysis
- *Viscosity Analysis
- *Color Analysis

Learning Outcomes

- *To understand the role and importance of Quality Control in the food industry

- *To be able to choose the appropriate statistical tool for typical data analysis in food science research and food industry applications; to be able to analyze data using the proper statistical tool and make conclusions.

- *To be able to choose the correct statistical control chart, and be able to construct and interpret typical control charts.

- *To be able to choose and apply the appropriate statistical sampling plan in quality control; to be able to identify the 7 principles of HACCP and the role of HACCP in quality control.

- *To be able to choose the appropriate sensory test in food science applications; to be able to organize and conduct a standard sensory test, analyze the data, and make conclusions.

- *To be able to choose the appropriate test for food texture evaluation; to be able to conduct a standard texture analysis, analyze the data, and make conclusions.

- *To be able to choose the appropriate test for food viscosity evaluation; to be able to conduct a

standard viscosity analysis, analyze the data, and make conclusions.

*To be able to choose the appropriate test for food color evaluation; to be able to conduct a standard color analysis, analyze the data, and make conclusions.

Course Format

*Two lectures and a laboratory each week

*4 unit exams

*Laboratory reports and homework assignments, which are due within 2 weeks

Grading System

*400 points (79% of total) -- 4 unit exams (100 points each)

*105 points (21% of total) -- 7 laboratory reports or homework @ 15 points each

Attendance

Regular attendance is expected and role will be taken. Anyone missing more than 2 lectures (including lectures given in laboratory periods) without a legitimate excuse will lose 10 points from their final point total. Students missing laboratory exercises without a legitimate excuse will not be allowed to make up the lab, and will not be allowed to turn in a lab report.

Texts and Handouts

No required text, but numerous handouts and reference material will be supplied. In addition, several texts will be on reserve in the instructor's office. A list of supplemental and related texts follows.

Academic Dishonesty

As a result of completing the registration form at the University of Florida, 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."

University of Florida Counseling Services

Resources are available on campus for students having personal problems or lacking clear career and academic goals. You are encouraged to use these resources if needed. These resources include:

University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling

Student Mental Health, Student Health Care Center, 392-1171, personal counseling

Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161, sexual assault counseling

Career Resource Center, Reitz Union, 392-1601, career development and counseling

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 actions will be taken as appropriate.

FOS 4722C LABORATORY

| <u>Date</u> | <u>Title</u> |
|-------------|--|
| 8/27 | Lecture |
| 9/3 | Lecture |
| 9/10 | Out of town, no class |
| 9/17 | Lecture |
| 9/24 | Exam 1 |
| 10/1 | Lecture |
| 10/8 | Lecture |
| 10/15 | Exam 2 |
| 10/22 | Sensory Analysis: Difference Testing |
| 10/29 | Sensory Analysis: Ranking and Rating |
| 11/5 | Sensory Analysis: Descriptive Analysis |
| 11/12 | Exam 3 |
| 11/19 | Texture Analysis |
| 11/26 | Viscosity Measurements |
| 12/3 | Exam 4 |

Recommended Texts

Bourne, M.C. 1982. Food Texture and Viscosity: Concept and Measurement. Academic Press, New York.

Francis, F.J. and F.M. Clydesdale. 1975. Food Colorimetry: Theory and Applications. AVI Publishing, Westport, CN.

Grant, E.L. and R.S. Leavenworth. 1988. Statistical Quality Control, 6th Edition. McGraw-Hill Publishing Co., New York, NY.

Hubbard, M.R. 2003. Statistical Quality Control for the Food Industry, 3rd Edition. Kluwer Academic/Plenum Publishers, New York.

Meilgaard, M., G.V. Civille, and B.T. Carr. 2007. Sensory Evaluation Techniques, 4th Edition. CRC Press, Boca Raton, FL.