Functional properties of proteins and enzymes in the food industry. Emphasis on ecological, physiological, and public health aspects.

Food Microbiology Laboratory Spring. (3-0-4) Interdepartmental with Microbiology and Molecular Genetics. P.M.: (MIC 205 or MIC 301) and completion of Tier I writing requirement. R: Not open to freshmen or sophomores. SA: MPH 440

Methods for studying major groups of microorganisms important to the food industry. Isolation, enumeration, characterization, identification, and use of microorganisms.

Food Analysis Fall. 3(2-3) P.M.: (BMB 200) or (BMB 401 or concurrently) and completion of Tier I writing requirement. Principles and application of analytical techniques. Analysis for fats, proteins, carbohydrates, minerals, vitamins, and additives. Techniques include spectroscopy, fluorimetry, chromatography, electrophoresis, and proximate composition.

Integrated Approaches to Food Product Development Fall. Spring. (2-0-6) P.M.: (FSC 402 or concurrently or FSC 441 or concurrently or FSC 455 or concurrently) and completion of Tier I writing requirement. P.N.M.: (FSC 339) R: Open only to seniors or graduate students. Food product development including obtaining, screening, and selection of ideas. Integration of food processing, chemistry, analysis, and microbiology for the design, production, and evaluation of a food product.

Food Engineering Fall. Spring. 3 credits. Interdepartmental with Biosystems Engineering. Administered by Department of Agricultural Engineering. P.M.: (BE 350 and BE 351 and CE 321) SA: FE 465

Unit operations, process engineering, equipment, and industrial practices of the food industry. Manufactured dairy products: thermal processing, pipeline design, heat exchange, evaporation, dehydration, aseptic processing, membrane separation, cleaning, and sanitation.

Special Problems in Food Science Fall. Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Approval of department; application required. Individual study of selected topics in food science. Supervised independent study.

Chemistry of Food Lipids Fall. of odd years. 3(3-0) P.N.M.: (FSC 401 and BMB 461)

Composition and structure of lipids: physical and chemical properties in relation to their function in foods.

Food Proteins Spring of even years. 3(3-0) P.N.M.: (BMB 461 and FSC 401)

Use of proteins and enzymes in the food industry. Functional properties of proteins and enzymes in food systems.