Food Science

Food science is the study of the transformation of biological materials into food products acceptable for human consumption. This requires studying diverse scientific disciplines related to food, including chemistry, engineering, microbiology, biochemistry, toxicology, and management; and effectively applying the industrial and practical aspects to product development, food processing, preservation, and marketing. The program is administered by the Department of Animal and Food Sciences and offers training in the basic sciences and in the fundamentals of food science.

Career opportunities in food industries include: management, research and development of new food products and ingredients, process supervision, quality control, procurement, distribution, sales, and merchandising. Positions include sales and services in allied industries; consulting and trade association activities; and promotional and educational services. Governmental agencies employ food scientists whose work is directed towards research, regulatory control, and the development of food standards.

Graduation Requirements
To earn the Bachelor of Science in Food Science, the student must complete a minimum of 128 semester hours with at least 45 hours from courses at the 300 level and above. A 2.0 grade-point standing (on a 4.0 scale) is necessary and remedial courses may not be counted toward the total hours required for the degree.

The Food Science program meets the requirements for accreditation by the Institute of Food Technologists and the National Organization of Food Science Professionals.

Plan of Study
As a food science major you are required to develop an acceptable Plan of Study during your sophomore year for your junior and senior years. The plan must be signed by your advisor and returned to the Office of Academic Programs.

If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan during the first semester you are enrolled in the program.

Consult your academic advisor in developing your Plan of Study.

Each student must complete the following:

College Required Hours
GEN 100 Issues in Agriculture .............................................................. 3

Subtotal: College Required Hours ....................................................... 3

University Studies Requirements

See “University Studies Program” on pages 80-84 of the 2008-2009 UK Bulletin for the complete University Studies requirements.

The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements.

Courses marked with an asterisk (*) may also be used to satisfy University Studies requirements.

Inference-Logic
MA 123 Elementary Calculus and Its Applications ................................. 3

Natural Sciences
CHE 105 General College Chemistry I .................................................. 3
CHE 107 General College Chemistry II .................................................. 3
CHE 111 Laboratory to Accompany General Chemistry I ....................... 3
CHE 113 Laboratory to Accompany General Chemistry II .................... 2

Social Sciences
AEC 101 The Economics of Food and Agriculture .................................. 3
Plus one additional course ................................................................. 3

USP Electives
BIO 150 Principles of Biology I ......................................................... 3
BIO 152 Principles of Biology II ......................................................... 3

Premajor Requirements
MA 132 Calculus for the Life Sciences ............................................... 3
BIO 205 Principles of Microbiology .................................................... 3
BIO 209 Introductory Microbiology Laboratory .................................. 2
CHE 236 Survey of Organic Chemistry ................................................. 3
NFS 212 Introductory Nutrition ........................................................... 3
PHY 211 General Physics ................................................................. 5
STA 291 Statistical Method ............................................................... 3

Subtotal: Premajor Hours ................................................................. 22

Major Requirements

Required:
FSC 107 Introduction to Food Science ................................................ 3
AEN 340 Principles of Food Engineering ............................................. 4
NFS 311 Nutritional Biochemistry or
BCH 401G Fundamentals of Biochemistry ........................................ 3
FSC 306 Introduction to Food Processing ........................................... 4
FSC 434G Food Chemistry ............................................................. 4
FSC 530 Food Microbiology ............................................................. 5
FSC 535 Food Analysis ................................................................. 4
FSC 536 Advanced Food Technology ............................................... 4

Subtotal: Major Hours ...................................................................... 31

Electives
Elective courses should be selected by the student to lead to the minimum total of 128 hours required for graduation.

Subtotal: Electives ........................................................................... minimum of 11

TOTAL HOURS: ............................................................................. 128