NTS M09: INTRODUCTION TO FOOD SCIENCE WITH LAB

Originator
clee

Co-Contributor(s)

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College
Moorpark College

Discipline (CB01A)
NTS - Nutritional Science

Course Number (CB01B)
M09

Course Title (CB02)
Introduction to Food Science with Lab

Banner/Short Title
Intro to Food Science with Lab

Credit Type
Credit

Start Term
Fall 2020

Catalog Course Description
Applies food science principles with emphasis on ingredient function and interaction, and food preparation techniques. Explores sensory evaluation standards, and examines food safety and sanitation.

Taxonomy of Programs (TOP) Code (CB03)
1306.00 - *Nutrition, Foods, and Culinary Arts

Course Credit Status (CB04)
D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)
A (Transferable to both UC and CSU)

Course Basic Skills Status (CB08)
N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)
D - Possibly Occupational

Course Cooperative Work Experience Education Status (CB10)
N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)
Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)
N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)
Y - Not Applicable

Course Noncredit Category (CB22)
Y - Credit Course

Funding Agency Category (CB23)
Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)
1 - Program Applicable

General Education Status (CB25)
Y - Not Applicable

Support Course Status (CB26)
N - Course is not a support course

Field trips
Will not be required

Grading method
Letter Graded

Alternate grading methods
Student Option- Letter/Pass
Pass/No Pass Grading

Does this course require an instructional materials fee?
No

Repeatable for Credit
No

Is this course part of a family?
No

Units and Hours

Carnegie Unit Override
No

In-Class

Lecture
Minimum Contact/In-Class Lecture Hours
35
Maximum Contact/In-Class Lecture Hours
35

Activity

Laboratory
Minimum Contact/In-Class Laboratory Hours
52.5
Maximum Contact/In-Class Laboratory Hours
52.5

Total in-Class

Total in-Class
Total Minimum Contact/In-Class Hours
87.5
Total Maximum Contact/In-Class Hours
87.5

Outside-of-Class

Internship/Cooperative Work Experience

Paid

Unpaid

Total Outside-of-Class

Total Outside-of-Class
Minimum Outside-of-Class Hours
70
Maximum Outside-of-Class Hours
70

Total Student Learning

Total Student Learning
Total Minimum Student Learning Hours
157.5
Total Maximum Student Learning Hours
157.5

Minimum Units (CB07)
3
Maximum Units (CB06)
3

Student Learning Outcomes (CSLOs)

	Upon satisfactory completion of the course, students will be able to:
1	apply the principles of food science related to food, safety, and preparation.
2	select, use, and maintain laboratory equipment and utensils appropriately.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1	prepare and present a variety of products from each major category of food (e.g. dairy, grains, meat, etc.).
2	apply basic food science principles.
3	describe and utilize accepted food safety and sanitation procedures.
4	identify and compare preparation methods to optimize nutrient content.
5	demonstrate basic knowledge of food preparation terminology and techniques.
6	demonstrate basic knowledge of weights, measures, and conversions.
7	demonstrate the ability to follow a standardized recipe.
8	evaluate sensory attributes of food.
9	select, use, and maintain laboratory equipment and utensils appropriately.

Course Content

Lecture/Course Content

1. (15%) Ingredient functions and interactions
2. (15%) Basic food science principles, terminology and techniques
3. (15%) Storage standards
4. (15%) Nutrient composition and retention
5. (10%) Sanitation and safety
6. (15%) Equipment and utensils
7. (15%) Product standards and sensory evaluation

Laboratory or Activity Content

1. (15%) Product standards and sensory evaluation
2. (15%) Nutrient composition and retention
3. (15%) Sanitation and safety
4. (15%) Storage standards
5. (10%) Equipment and utensils
6. (15%) Ingredient functions and interactions
7. (15%) Basic food science principles, terminology, and techniques

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

Problem solving exercises
Skills demonstrations
Written expression

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Classroom Discussion
Computational homework
Essay exams
Group projects
Individual projects
Laboratory activities
Laboratory reports
Objective exams
Oral presentations
Projects
Problem-solving exams
Participation
Quizzes
Reports/Papers/Journals
Reports/papers
Research papers
Skills demonstrations
Skill tests

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Class discussions
Demonstrations
Field trips
Guest speakers
Laboratory activities
Lecture
Small group activities

Describe specific examples of the methods the instructor will use:

The instructor will lecture using a PowerPoint presentation. The instructor may also utilize professional perspectives to convey course material

Representative Course Assignments

Writing Assignments

- Record experimental data and write an analysis of the results.
- Complete a sensory evaluation worksheet.
- Write a 1-2 page paper on the nutritional impacts of sugar.

Critical Thinking Assignments

- Predict what kind of texture or mouth feel you might expect when making substitutions to the ingredients of a recipe.
- Reflect upon the impact of the exclusion ingredients in a specified recipe.
- Utilize the scientific method to test a hypothesis based on a processed food.

Reading Assignments

- Read the assigned content from the textbook.
- Read guidelines from the Food and Drug Administration on food safety and sanitation.

Skills Demonstrations

- Follow a standardized recipe.
- Apply basic food science principles to attain a specified texture of a custard.

Outside Assignments

Representative Outside Assignments

- Attend a food science and/or nutrition-related event and write a summary and critique of the content of the presentation.
- Conduct a home food safety assessment and write up your findings and suggestions.
- Read and summarize two food-related research projects.
- Read course material from the textbook and assigned websites.

Articulation

C-ID Descriptor Number
NUTR 120

Status
Approved

Equivalent Courses at 4 year institutions

University	Course ID	Course Title	Units
CSU Los Angeles	NTRS 2100	Foundations of Food	3
CSU Northridge	FCS 201/L	Introductory Food Science and Lab	2/1
CSU Bakersfield	BIOL 2240	Principles of Nutrition	3
CSU Chico	NFSC 120	Introduction to Food Science	3

Comparable Courses within the VCCCD
HED V32 - Principles of Food with Lab

Equivalent Courses at other CCCs

College	Course ID	Course Title	Units
Orange Coast College	FN A180	Principles of Foods	3
Pasadena City College	NUTR 012	Principles of Food Science	3

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

Course is CSU transferable
Yes

CSU Baccalaureate List effective term:
Fall 2007

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

UC TCA

UC TCA
Approved

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Resource Type
Textbook

Classic Textbook
No

Description
Brown, Amy Christine. *Understanding Food: Principles and Preparation*. 6th ed., Cengage Learning, 2018.

Resource Type
Textbook

Classic Textbook
No

Description
McWilliams, Margaret. *Foods: Experimental Perspectives.* 8th ed., Pearson, 2016.

Resource Type
Textbook

Description
Scheule, Barbara, and Amanda Frye. *Introductory Foods.* 15th ed., Prentice Hall, 2019.

Resource Type
Textbook

Classic Textbook
No

Description
Brown, Amy Christine. *Lab Manual for Brown's Understanding Food: Principles and Preparation*. 5th ed., Cengage Learning, 2014.

Library Resources

Assignments requiring library resources
Research using the library's print and online resources for a paper.

Sufficient Library Resources exist
Yes

Example of Assignments Requiring Library Resources
Research using the library's print and online resources for a paper on food standards and the nutritional impact of specific recipe ingredients and food components.

Primary Minimum Qualification
NUTRITIONAL SCIENCE/DIETETICS

Review and Approval Dates

Department Chair
09/26/2019

Dean
09/26/2019

Technical Review
10/17/2019

Curriculum Committee
MM/DD/YYYY

DTRW-I
MM/DD/YYYY

Curriculum Committee
MM/DD/YYYY

Board
MM/DD/YYYY

CCCCO
MM/DD/YYYY

Control Number
CCC000566383

DOE/accreditation approval date
MM/DD/YYYY