

NTS M01: INTRODUCTION TO NUTRITION SCIENCE

Originator

clee

Co-Contributor(s)
Name(s)

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College

Moorpark College

Discipline (CB01A)

NTS - Nutritional Science

Course Number (CB01B)

M01

Course Title (CB02)

Introduction to Nutrition Science

Banner/Short Title

Intro. to Nutrition Science

Credit Type

Credit

Start Term

Fall 2020

Catalog Course Description

Examines scientific concepts of nutrition related to the function of nutrients within the human body and current health issues. Focuses on the nutrient requirements throughout the life cycle, as well as an emphasis on individual needs.

Additional Catalog Notes

Course Credit Limitation:

UC - NTS M01 and NTS M03 combined: maximum credit, one course

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

52.5

Maximum Contact/In-Class Lecture Hours

52.5

Activity

Laboratory

Total in-Class

Total in-Class

Total Minimum Contact/In-Class Hours

52.5

Total Maximum Contact/In-Class Hours

52.5

Outside-of-Class

Internship/Cooperative Work Experience

Paid

Unpaid

Total Outside-of-Class

Total Outside-of-Class

Minimum Outside-of-Class Hours

105

Maximum Outside-of-Class Hours

105

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	categorize personal food choices within the various national dietary recommendations.
2	utilize a computer database to evaluate a personal diet.

Course Objectives

Upon satisfactory completion of the course, students will be able to:	
1	explain the functions and sources of nutrients in the body: carbohydrates (starch, sugar, fiber), proteins (amino acids), fats (triglycerides, sterols, phospholipids), water, vitamins and minerals.
2	describe the main structures, functions, and physiology of the organs involved in nutrient digestion, absorption, and metabolism.
3	explain the secretions involved in digestion of carbohydrates, proteins, fats, vitamins, and minerals (enzymes, co-enzymes, bile, gastric acid, bicarbonate) and how they are regulated and define anabolism and catabolism.
4	describe the metabolism of nutrients through the blood and lymph systems, detailing the utilization of carbohydrates, proteins, fat, vitamins and minerals.
5	evaluate nutrition needs during the life cycle: pregnancy, lactation, early childhood, teen, and older adult.
6	apply dietary guidelines and current nutrition recommendations to personal food choices: MyPlate food guide, Recommended Dietary Allowances (RDA), and Dietary Guidelines for Americans.
7	scientifically analyze and evaluate nutrition information to disease prevention and management such as hypertension, cardiovascular disease, cancer, diabetes, and eating disorders.
8	compare and contrast vitamin and mineral deficiency and toxicity levels.
9	explain the role of feasting and fasting on glucose, proteins, lipids, and carbohydrates; and the role of ketosis during fasting/starvation.
10	relate nutrition to health and fitness, describing the increased nutrient needs for athletes, the special concerns for female athletes, and the dangers of ergogenic aids or supplements.

11	discuss the biochemistry of the muscle cell's use of glycogen, amino acids and fatty acids for energy, the regulation of electrolytes, and adaptations to increased need of certain vitamins and minerals for physical activity.
12	discuss consumer concerns and regulations, including food safety, environmental contaminants, food technology, and food additives.
13	utilize a computer database to evaluate a personal diet record.
14	define metabolic rate.
15	discuss the psychology of wellness.

Course Content

Lecture/Course Content

1. (15%) Scientific Analysis and Evaluation of Nutrition Information:

- Diets and Disease Prevention
- Medical Nutrition Therapy
- Role of "Functional Foods"
- Diets and Disease Prevention
- Hypertension, Cancer, Diabetes
- Eating Disorders

2. (5%) Nutrition Throughout the Life Cycle:

- Pregnancy
- Lactation
- Early Childhood
- Teen
- Older Adult

3. (15%) Metabolism:

- Chemical Reactions
- Anabolism and Catabolism
- Enzymes and Coenzymes
- Liver Functions
- Carbohydrates (Glucose)
- Proteins (Amino Acids)
- Lipids (Glycerol and Fatty Acids)
- Water, Vitamins, and Minerals

4. (15%) Mechanical and Chemical Aspects of Digestion:

- Digestive Tract
- Digestive Secretions
- Transport of Nutrients through Circulatory and Lymphatic Systems
- Elimination

5. (5%) Food Diversity and Consumer Concerns:

- World Hunger and Global Environment
- Food Safety and Regulations
- Food Toxins, Residues, and Contaminants
- Food Technology

6. (15%) Vitamin and Mineral Deficiency and Toxicity

7. (15%) Nutrition Standards:

- U.S. Department of Agriculture's choosemyplate.gov website
- Food Guides of Other Countries
- Recommended Dietary Allowances
- Dietary Guidelines for Americans
- Food Journal Computer Databases

8. (15%) Related Nutrition to Health and Fitness:

- Nutrition for the Athlete
- Biochemistry of the Muscle Cell
- Ergogenic Aids and Supplements
- Psychology of Wellness

Laboratory or Activity Content

Not applicable.

Methods of Evaluation

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

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
 Essay exams
 Individual projects
 Objective exams
 Other (specify)
 Projects
 Participation
 Reports/Papers/Journals

Other

Nutritional plans, food taste test.

Instructional Methodology

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

Class discussions
 Distance Education
 Field trips
 Guest speakers
 Lecture

Describe specific examples of the methods the instructor will use:

The instructor will lecture using a PowerPoint presentation. For the online setting, PowerPoint presentation slides may include an audio component or a text narrative. Video clips may also be utilized. The instructor may also utilize professional perspectives to convey course material.

Representative Course Assignments

Writing Assignments

1. Analyze food label nutrition facts.
2. Critique a peer-reviewed medical journal article from the Library's online or print resources.
3. Complete a three-day nutrient analysis using computer software, mobile phone application, or textbook appendix on "Table of Food Composition."

Critical Thinking Assignments

1. Compare and contrast human body fat composition of art work from Peter Paul Rubens (1638) and Fernando Botero (2003).
2. Formulate personal health goals after completing one session with on-campus peer nutrition counselor; may include blood lab results and diet analysis printouts.
3. Analyze foods and their labels for their nutrient content (fiber, sodium, Vitamin A, etc.) during class food taste test assignment.

Reading Assignments

1. Read assigned chapters from the course textbook, for example on vitamins and minerals, to prepare for the exam.
2. Read the US Department of Agriculture's choosemyplate.gov website and prepare an informational brochure about food groups.

Outside Assignments

Representative Outside Assignments

1. Participate in community projects such as volunteering at a soup kitchen, food drive, or food pantry.
2. Participate in nutrition-related workshops/seminars during Multicultural Day or One-Campus, One-Book program on campus.
3. Participate in an optional field trips such as going to Underwood Farms, Whole Foods store, Follow Your Heart Restaurant, and local museums.

Articulation

C-ID Descriptor Number

NUTR 110

Status

Approved

Equivalent Courses at 4 year institutions

University	Course ID	Course Title	Units
CSU, Northridge	FCS 207	Nutrition for Life	3
San Francisco State University	NUTR 253	Nutrition and Health Disease	3
CSU Long Beach	NUTR 132	Introductory Nutrition	3
CSU Chico	NFSC 100	Basic Nutrition	3
UC Berkeley	NUSCTX 10	Intro to Human Nutrition	3
UC Davis	NUTR 10	Discoveries and Concepts in Nutrition	3
UC Riverside	BCH 10	Intro to Nutrition	4
Cal Poly San Luis Obispo	FSN 210	Nutrition	4
Cal Poly Pomona	FN 235	Nutrition	4

Comparable Courses within the VCCCD

HED R114 - Intro to Nutrition Science
 HED V87 - Nutrition

Equivalent Courses at other CCCs

College	Course ID	Course Title	Units
College of the Canyons	HLHSCI 150	Nutrition	3

District General Education**A. Natural Sciences****B. Social and Behavioral Sciences****C. Humanities****D. Language and Rationality****E. Health and Physical Education/Kinesiology****E1. Health Education**

Approved

Effective term:

Spring 2020

F. Ethnic Studies/Gender Studies**Course is CSU transferable**

Yes

CSU Baccalaureate List effective term:

FALL 1995

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

E Lifelong Learning and Self-Development

Approved

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

Description

Sizer, Frances, and Eleanor Whitney. *Nutrition: Concepts and Controversies. 15th ed.*, Cengage Learning, 2019.

Resource Type

Textbook

Description

Whitney, Eleanor, and Sharon Rolfes. *Understanding Nutrition. 15th ed.*, Cengage Learning, 2019.

Resource Type

Textbook

Description

Smith, Anne, Angela Collene, and Colleen Spees. *Wardlaw's Contemporary Nutrition. 11th ed.*, McGraw-Hill. 2018.

Resource Type

Software

Description

Diet Analysis Plus (online access code necessary)

Resource Type

Other Resource Type

Description

Colson, J. *Taking Sides: Clashing Views on Controversial Issues in Food and Nutrition*. 4th ed., McGraw-Hill, 2019.

Library Resources

Assignments requiring library resources

Research using the Library's print and online resources to locate peer-reviewed health/medical journal articles on topics related to health and nutrition. Use of the Library's computers to access the Diet Analysis Plus software program or equivalent Internet application to complete nutrient analysis project.

Sufficient Library Resources exist

Yes

Example of Assignments Requiring Library Resources

Utilize the Library's health and medical databases to locate journal articles that analyze and compare fad diets.

Distance Education Addendum

Definitions

Distance Education Modalities

Hybrid (51–99% online)

Hybrid (1–50% online)

100% Online

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.

Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.

Yes

Regular Effective/Substantive Contact

Hybrid (1%–50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	<p>Online instructors will provide lesson plans that require activities such as reading course material from a mandatory textbook and participating in discussion forums or chat room topics. Instructors will provide students with feedback on the content and quality of assignments and discussion posts.</p> <p>Additionally, instructors may engage students using the following communication activities available in the online classroom: contact students via e-mail within the course shell, by campus e-mail, and/or MyVCCCD.</p> <p>Instructors may involve students in active learning with the following activities: students may view video lessons and/or text-based lessons corresponding to course content and learning objectives; students may complete homework through the online course, and/or using an interactive online homework system provided by a publishing company; students may engage in internet searches and Library online database resources on topics corresponding to course content and learning objectives; students may test their knowledge with interactive online quizzes; students may interact with the instructor and classmates using an online discussion forum to ask questions; students may submit questions to the instructor by email or ask in person in a virtual classroom; instructor may create student groups or group activities using the online course</p>
E-mail	Contact students via e-mail within the course shell, by campus e-mail, and/or MyVCCCD.
Face to Face (by student request; cannot be required)	On-campus office hours as scheduled.
Other DE (e.g., recorded lectures)	<p>Online instructors will provide lesson plans that require activities such as reading course material from a mandatory textbook and participating in discussion forums or chat room topics.</p> <p>"Announcement" tool to remind students of important assignments and due dates; provide students with an online schedule of class events using the "calendar" tool in the online course shell.</p> <p>Instructors may involve students in active learning with the following activities: students may view video lessons and/or text-based lessons corresponding to course content and learning objectives; students may complete homework through the online course, and/or using an interactive online homework system provided by a publishing company; students may engage in internet searches and Library online database resources on topics corresponding to course content and learning objectives; students may test their knowledge with interactive online quizzes; students may interact with the instructor and classmates using an online discussion forum to ask questions; students may submit questions to the instructor by email or ask in person in a virtual classroom; instructor may create student groups or group activities using the online course</p>
Synchronous Dialog (e.g., online chat)	Meet with students for study sessions and online office hours using an online communication tool. Additionally, instructors may engage students using the following communication activities available in the online classroom.

Video Conferencing	Lectures, study sessions. Instructors may involve students in active learning with the following activities: students may view video lessons and/or text-based lessons corresponding to course content and learning objectives; students may complete homework through the online course, and/or using an interactive online homework system provided by a publishing company; students may engage in internet searches and Library online database resources on topics corresponding to course content and learning objectives; students may test their knowledge with interactive online quizzes; students may interact with the instructor and classmates using an online discussion forum to ask questions; students may submit questions to the instructor by email or ask in person in a virtual classroom; instructor may create student groups or group activities using the online course
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E-mail	Contact students via e-mail within the course shell, by campus e-mail, and/or MyVCCCD.
Face to Face (by student request; cannot be required)	On-campus office hours as scheduled.

Other DE (e.g., recorded lectures)

Online instructors will provide lesson plans that require activities such as reading course material from a mandatory textbook and participating in discussion forums or chat room topics.

"Announcement" tool to remind students of important assignments and due dates; provide students with an online schedule of class events using the "calendar" tool in the online course shell.

Instructors may involve students in active learning with the following activities:

students may view video lessons and/or text-based lessons corresponding to course content and

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and learning objectives; students may test their knowledge with interactive online quizzes; students may interact with the instructor and classmates using an online discussion forum to ask questions; students may submit questions to the instructor by email or ask in person in a virtual classroom; instructor may create student groups or group activities using the online course

Synchronous Dialog (e.g., online chat)

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Video Conferencing

Lectures, study sessions.

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100% online Modality:

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Examinations

Hybrid (1%–50% online) Modality

Online
On campus

Hybrid (51%–99% online) Modality

Online
On campus

Primary Minimum Qualification
NUTRITIONAL SCIENCE/DIETETICS

Review and Approval Dates

Department Chair
09/23/2019

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
CCC000426489

DOE/accreditation approval date
MM/DD/YYYY