

HOUSTON COMMUNITY COLLEGE SW Department: Life Sciences (Biology)

BIOL 1322 Nutrition & Diet Therapy

BIOL 1322 Nutrition & Diet Therapy Fall 2018 2 nd Start			
Course location and times:	CE Learning Hub-Sci LHSB304 Mon/ Wed 6PM – 7:50 PM		
Class Number(CRN#)	10546		
Course Semester Credit Hrs.	3 Credit hours		
Total Course Contact Hrs.	48 hrs. lecture		
Course length:	12 weeks		
Instruction type:	Face-to-Face (In-Person), Lecture		

Faculty	MahRukh Aslam M.Sc.
Email address:	Mahrukh.aslam@hccs.edu (preferred)
Phone Number	713-718-7771
Office hours:	By appointment

ACGM Course Description: BIOL 1322 Nutrition & Diet Therapy

This course introduces general nutritional concepts in health and disease and includes practical applications of that knowledge. Special emphasis is given to nutrients and nutritional processes including functions, food sources, digestion, absorption, and metabolism. Food safety, availability, and nutritional information including food labels, advertising, and nationally established guidelines are addressed. (Cross-listed as HECO 1322)

In our efforts to prepare students for a changing world, students may be expected to utilize computer technology while enrolled in classes, certificate, and/or degree programs. The specific requirements are listed below:

GETTING READY

Prerequisites: None; however, This course requires a basic understanding of

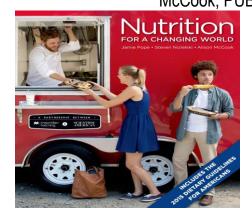
biology, math, and chemistry.

Co-requisites: None.

Required Material: LaunchPad Student Access Code by Macmillan (publisher) – the

online course portal will be Instructor-specific

Textbook: NUTRITION FOR A CHANGING WORLD; AUTHORS: Pope, Nizielski, McCook; PUBLISHER: Macmillan. ISBN 9781319136468



Students can join your course at this URL:

http://www.macmillanhighered.com/launchpad/pope1e/8134985

CANVAS: Assignments may be posted online on CANVAS found at the following

link https://eagleonline.hccs.edu/courses/67171

Learning Web: https://learning.hccs.edu/faculty/mahrukh.aslam

Tutoring

HCCS provides free online tutoring for all HCC students. Go

https://hccs.upswing.io/: use your own e-mail address; choose a username and password you will remember; put your HCC student ID number in the Comment.

IMPORTANT DATES TO REMEMBER:

Official Day of Record: October 3
Last Day to Withdraw: November 12

Last Day for 70%//25% Refund: October 8// October 11

Last Day of Instruction: December 7
Semester Ends: December 16

Department Course Description:

This course centers on an explanation of the basic principles of human nutrition and their relationship to health and disease. The structure, functions and sources of nutrients, including proteins, carbohydrates, fats, vitamins, minerals, and water are discussed. Current issues in nutrition are reviewed including dietary guidelines, energy balance, vitamin/mineral supplements and food fads. Nutritional needs for all stages of the lifespan, along with weight management and food safety are discussed.

The goal of this course is to prepare students for careers that involve knowledge of nutrition and health of the human body and to help students to be able to choose healthy eating strategies for themselves and their families.

Biology Discipline Program Student Learning Outcomes (PSLOs):

- 1. Students will display an understanding of biological systems and evolutionary processes spanning all ranges of biological complexity, including atoms, molecules, genes, cells, and organisms.
- 2. Students will demonstrate the ability to think critically and to integrate factual or conceptual information into an understanding of scientific data by written, oral and/or visual communication; this may include successful completion of a course-specific research project or a case study module.
- 3. Students will demonstrate proficiency and safe practices in the use of laboratory equipment and basic laboratory techniques.
- 4. Students will apply principles of the scientific method to problems in biology and apply basic laboratory safety procedures in the collection, recording, quantitative measurement, analysis and reporting of scientific data.

Course Student Learning Outcomes (CSLOs):

Upon successful completion of this course, students will:

- 1. Apply nutritional knowledge to analyze personal dietary intakes, to plan nutritious meals using nationally established criteria to meet recommended goals, and to evaluate food labels and the validity of nutritional claims.
- 2. Trace the pathways and processes that occur in the body to handle nutrients and alcohol through consumption, digestion, absorption, transport, metabolism, storage and waste excretion.
- 3. Discuss functions, sources, deficiencies, and toxicities of macro- and micronutrients, including carbohydrates, lipids, proteins, water, vitamins, and minerals.

- 4. Apply the concept of energy balance and its influences at the physical, emotional, societal, and cellular level to evaluate advantages and disadvantages of various methods used to correct energy imbalances.
- 5. Utilize concepts of aerobic and anaerobic energy systems, and knowledge about macronutrients, vitamins, minerals, ergogenic, and supplements and relate them to fitness and health.
- 6. Describe health and disease issues related to nutrition throughout the life cycle, including food safety, corrective dietary modifications, and the influence of specific nutrients on diseases.

Students Learning Objectives:

- 1.1. Record food intake for three consecutive days
- 1.2. Use Super Tracker to analysis your diet.
- 1.3. Report your analysis based on ABC of healthy eating
- 1.4. Complete a worksheet on Food Package having appropriate labels
- 1.5. Complete Food Label Worksheets
- 2.1 Describe how the body handles the food as the food is ingested and passes through the Alimentary canal
- 2.2. Describe the functions of the accessory organs in processing of food
- 2.3. Identify the different enzyme and their roles in the digestion of food
- 2.4. Identify the hormones that are involved in digestion
- 2.5. Discuss the transportation, absorption, and metabolism of the nutrients release from food after digestion
- 2.6. Describe the storage of the nutrient in the body and the organs of elimination
- 3.1. Classify the different types of nutrients as macro (caloric-energy giving) and micro (non-caloric).
- 3.2. Classify the essential vitamins as fat soluble and water soluble
- 3.3 Tabulate the vitamins to indicate their functions, sources, deficiency and toxicity signs and symptoms.
- 3.4. Classify the essential minerals as major and trace.
- 3.5. Tabulate the mineral according to the functions, sources, deficiency and toxicity signs and symptoms.
- 4.1. Describe the source of energy in the body (calories/ATP) from the macronutrients, the expected energy requirement (EER) and the components of total energy expenditure (TEE, SDA, REE, PA, & Thermic Effect of Food).
- 4.2. Calculate own Body Mass Index, EER, and energy expended during Physical Activity.
- 4.3. List the different method used to determine body composition and their merits and demerits.
- 4.4 Discuss the different health risks associated with fat storage in the body.
- 4.5. Discuss strategies for successful weight loss and maintenance.

- 5.1. Identify and rank the four components of ATP production in the body from macro and micro nutrients, supplements and ergogenic.
- 5.2. List at least five health benefits of regular appropriate PA
- 5.3. Describe the four components of physical fitness.
- 5.4. Define hydration during carbohydrate loading and describe its benefits.
- 5.5. Identify factors that affect fluid needs of athletics and discuss strategies to optimize hydration for enhanced performance.
- 6.1. Identify the eight common foods that cause allergic reactions.
- 6.2. Describe characteristics of and differences among anorexia nervosa, bulimia nervosa, and binge eating disorder.
- 6.3. Identify lifestyle dietary characteristics that may delay the onset of age related diseases.
- 6.4. Tabulate nutrition-related conditions common in infancy, childhood, adolescence, and older adults and their precipitating factors and potential consequences.
- 6.5. Tabulate nutrients of concern in the preconception, prenatal, postnatal lactating woman identifying ways to obtain adequate intake.

TENTATIVE INSTRUCTIONAL OUTLINE: The Instructor reserves the right to change the instructional outline if needed. Students will be informed in a timely manner of any changes.

UNIT 1:

Chapter 1: The Science & Scope of Nutrition

Chapter 2: Healthy Diets Super Tracker Tutorial

Chapter 3: Digestion and Metabolism

Chapter 4: Carbohydrates

Chapter 5: Nutrition and Diabetes

Chapter 8: Protein EXAM 1

UNIT 2:

Chapter 6: The Lipids

Chapter 7: Lipids in Health and Disease

Chapter 9: Plant-Based Diets

Chapter 10: Fat Soluble Vitamins

Chapter 11: Water Soluble Vitamins

Chapter 12: Dietary Supplements

EXAM 2

UNIT 3:

Chapter 13: Major Minerals and Water

Chapter 14: Trace Minerals

Chapter 15: Energy Balance and Obesity

Chapter 16: Nutrition and Fitness

Chapter 20: Food Safety and Food Security

EXAM 3

UNIT 4:

Chapter 17: Nutrition for Pregnancy, Breastfeeding and Infancy

Chapter 18: Childhood Nutrition Chapter 19: The College Years

Chapter 21: Nutrition and the Aging Adult

EXAM 4

Course Calendar: Tentative Schedule.

The Instructor reserves the right to change the instructional outline if needed. Students will be informed within 24 hours of any changes.

***BIOL 1322 is a fast-moving, largely self-paced course. You need to keep up with Information and assignments each week in the course.

UNITS	Weeks		CHAPTERS	Assignments
1	1	Mon 9/24/18	Syllabus/Introduction 1: The Science and Scope of Nutrition	Intro to Term Project: Analyze My Diet-Food Groups
		Wed 9/26/18	2: Healthy Diets 3: Digestion	
	2	Mon 10/01/18	3: Digestion 4: Carbohydrates	Launchpad: Real World Nutrition Activities
		Wed 10/03/18	5: Nutrition and Diabetes	
	3	Mon 10/08/18	8: Protein	Complete/Turn in the POGIL worksheets 1. ABCMV
		Wed 10/10/18	Exam 1: 1,2,3,4,5,8	2. Diet/Digestion 3. Carbohydrates 4. Protein/AA's
2	4	Mon 10/15/18	6: The Lipids, Word Problems 7: Lipids in Health and Disease	Launchpad: Real World Nutrition Activities
		Wed 10/17/18	9: Plant-Based Diet	
	5	Mon 10/22/18	10: Fat Soluble Vitamins	Launchpad: Real World Nutrition Activities
		Wed 10/24/18	11: Water Soluble Vitamins	
	6	Mon 10/29/18	12: Dietary Supplements	
		Wed 10/31/18	Exam 2: 6,7,9,10,11,12	Complete/Turn in the POGIL worksheets:

				1. Fat/Lipids Analyze My Diet – Carbs, Protein, and Lipids
3	7	Mon 11/05/18	13: Major Minerals and H20	Launchpad: Real World Nutrition Activities
		Wed 11/07/18	14: Trace Minerals	
	8	Mon 11/12/18	15: Energy Balance and Obesity	
		Wed 11/14/18	16: Nutrition and Fitness 20: Food Safety and Food	
		Friday		Part 1 (Launchpad) Project due. 1. Analyze my Diet- (AMD) – Vitamins and Minerals—Due—Part 1
	9	Mon 11/19/18	Exam 3: 13,14,15,16,20 ESSAY HELP and First Reading	Complete the POGIL worksheets: 1.Weight Management/ Exercises 2.Scientific Methods
		Wed 11/21/18	Thanksgiving Break	
4	10	Mon 11/26/18	17: Nutrition for Pregnancy, Breastfeeding and Infancy	Launchpad: Real World Nutrition Activities
		Wed 11/28/18	18: Childhood Nutrition	
	11	Mon 12/03/18	19: The College Years	

	Wed 12/05/18	21: Nutrition + the Aging Adult	
	Friday 12/07/18		Final Project Essay (AMD) Submission
12	Mon 12/10/18	Lecture Exam 4: 17,18,19,21 FINAL EXAM PREP	Complete the POGIL worksheets: 1.Vitamins/Minerals 2.Water
	Wed 12/12/18	Final Exam: Comprehensive Departmental Final	

Accommodations due to a qualified disability HCC Policy	HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to http://www.hccs.edu/support-services/disability-services/ . Students are responsible for conducting themselves with
Statement: Academic Honesty	honor and integrity in fulfilling course requirements. Disciplinary proceedings may be initiated by the college system against a student accused of scholastic dishonesty. Penalties can include a grade of "0" or "F" on the assignment, failure in the course, academic probation, or even dismissal from the college. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion.
HCC Policy	Attendance
Statement: Student	Attendance is mandated by the state. Students are

attendance, 3-peaters, withdrawal deadline	expected to attend the entirety of the scheduled lecture/classes. Students are responsible for materials covered during their absences, and it is the student's responsibility to consult with instructors for make -up assignments if they are willing. Instructors check class attendance daily. A student may be dropped from a course for excessive absences after the student has accumulated absences more than 12.5% of the hours of instruction. Note that 12.5% is approximately 2 classes for a 3-semester hour course. Habitual tardiness will not be tolerated. Students are expected to be in attendance for the entirety of the scheduled class and are responsible for completing assignments scheduled during their absence/s. It is the responsibility of each student to amend their professional/personal schedule to meet the class schedule
HCC Policy Statement: ADA Academic Honesty Student attendance 3-peaters Withdrawal deadline	Access Student Services Policies on their Web site: http://www.hccs.edu/resources-for/current-students/student-handbook/
Basic Needs	Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable us to provide any resources that HCC may possess.
Campus Cary	At HCC the safety of our students, staff, and faculty is our priority. As of August 1, 2017, Houston Community College is subject to the Campus Carry Law (SB11 2015). For more information, visit the HCC Campus Carry web page at http://www.hccs.edu/district/departments/police/campus-carry/
HCC Online Policies	Access HCC Online Policies on their Web site:

All students are responsible for reading and understanding the HCC Online Student Handbook, which contains policies, information about conduct, and other important information. For the HCC Online Student Handbook click on the link below or go to the HCC Online page on the HCC website.

The HCC Online Student Handbook contains policies and procedures unique to the online student. Students should have reviewed the handbook as part of the mandatory orientation. It is the student's responsibility to be familiar with the handbook's contents. The handbook contains valuable information, answers, and resources, such as HCC Online contacts, policies and procedures (how to drop, attendance requirements, etc.), student services (ADA, financial aid, degree planning, etc.), course information, testing procedures, technical support, and academic calendars. Refer to the HCC Online Student Handbook by visiting this link:

<u>http://www.hccs.edu/media/houston-community-college/distance-education/student-services/HCC-Online-Student-Handbook.pdf</u>

Instructional Methods:

As an instructor, I want my students to be successful. I feel that it is my responsibility to provide you with knowledge concerning the field of nutrition, to apply in future jobs, apply nutritional knowledge to analyze personal dietary intakes, to plan nutritious meals using nationally established criteria to meet recommended goals, and organizing and monitoring the nutrition experience that allows you to connect the information that you learn in this course to the real-world experiences

As a student wanting to learn about the field of nutrition, it is your responsibility to follow the instructions, submit assignments on the due dates, have all the required tools and materials, create midterm and final term projects, participate in online activities, and enjoy yourself while experiencing the real world of sound nutrition and diet therapy.

As I believe that engaging the students in the learning is essential for teaching to be effective, you will spend most of class time involved in collaborative activities. You will be involved in online discussions with your classmates and your instructor. As you will want to contribute to these discussions, you will need to log into class, participate in the discussions, analyze and evaluate information from course materials, videos, and/or power point online presentations.

Student Assignments:

Students need to complete these graded assignments in canvas Print and complete the POGIL worksheets

- 1. ABCMV
- 2. Food Package
- 3. Food Safety
- 4. Analyze My Diet Food Groups

Print and complete the POGIL worksheets:

- 1. Carbohydrates
- 2. Protein
- 3. Fat/Lipids
- 4. Analyze My Diet Carbs., Protein and Fat/Lipids

Part 1 Project

Print and complete the POGIL worksheets:

- 1. Vitamins/Minerals
- 2. Water
- 3. Analyze My Diet Vitamins and Minerals

Print and complete the POGIL worksheets:

- 1. Exercises
- 2. Scientific Methods

Final Project Submission

Student Assessments:

Bellow Is the List of Assessments included in the course

Unit 1 Exam	15 points
Unit 2 Exam	15 points
Unit 3 Exam	15 points
Unit 4 Exam	15 points
Diet Analysis Project	10 points
POGIL Worksheets/Launchpad	20 points
District Final	10 points
Final Grade	100 points

The Diet Analysis Project:

The instrument for assessment is the "Analyze My Diet" Case Study set Modules from Macmillan Launchpad software for all sections, except Physical Activity. Do only the multiple-choice parts labelled, Part 1. Do not do the Reflection parts (Part 2) The Diet Analysis Case Study assignment procedure is in My Learning Web.

Instructor Requirements:

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through class activities, discussions, and lectures
- Description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness and make up, No Makeups for Tests.
- Provide the course outline and class calendar which will include a description of any special projects or assignments

To be successful in this class, it is the student's responsibility to:

- Log in to participate in class discussions and activities
- Purchase all the tools, materials, and circuit kits to complete the projects are required in this course.
- Write notes of the instructions are provided by the instructor.
- Read and comprehend the web enhanced provided materials.
- Complete the required assignments and projects:
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts and all assignments

ACADEMIC INTEGRITY

This instructor is committed to a high standard of academic integrity in the academic community. In becoming a part of the academic community, students are responsible for honesty and independent effort. Failure to uphold these standards includes, but is not limited to, the following: plagiarizing written work or projects, cheating on exams or assignments, collusion on an exam or project, and misrepresentation of credentials or prerequisites when registering for a course.

- <u>Cheating</u> includes looking at or copying from another student's exam, orally
 communicating or receiving answers during an exam, having another person
 take an exam or complete a project or assignment, using unauthorized notes,
 texts, or other materials for an exam, and obtaining or distributing an
 unauthorized copy of an exam or any part of an exam.
- <u>Plagiarism</u> means passing off as his/her own the ideas or writings of another (that is, without giving proper credit by documenting sources). Plagiarism

includes submitting a paper, report, or project that someone else has prepared, in whole or in part.

• <u>Collusion</u> is inappropriately collaborating on assignments designed to be completed independently.

These definitions are not exhaustive. When there is clear evidence of cheating, plagiarism, collusion, or misrepresentation, disciplinary action may include but is not limited to requiring you to retake or resubmit an exam or assignment, assigning a grade of zero or "F" for an exam or assignment; or assigning a grade of "F" for the course. Additional sanctions including being withdrawn from the course or program, or expelled from school, may be imposed on a student who violate the standards of academic integrity.

HCC Grading	The HCC grading scale is:	
Scale:	A = 100 – 90	4 points per semester
ocaic.	hour	4 points per semester
	B = 89 – 80	3 points per semester
	hour	o points per semester
	C = 79 – 70	2 points per semester
	hour	2 points per semester
	D = 69 – 60	1 point per semester
	hour	1 point per semester
		O points per competer
	59 and below = F	0 points per semester
	hour) O mainta man agreetan
	FX (Failure due to non-attendance	e) o points per semester
	hour	0
	IP (In Progress)	0 points per semester
	hour	0
	W (Withdrawn)	0 points per semester hour
	I (Incomplete)	0 points per semester
	hour	
	AUD (Audit)	0 points per semester hour
	IP (In Progress) is given only in certain developmental	
	courses. The student must reenroll to receive credit. COM	
	(Completed) is given in non-credit and continuing education	
	courses.	
	To compute grade point average (GPA), divide the total	
	rade points by the total number of semester hours	

attempted. The grades "IP", "W", "AUD", "COM" and "I" do not affect GPA.

Incompletes
The grade of "I" (Incomplete) is conditional. A student receiving an "I" must arrange with the instructor to complete the course work within six months of the end of the incomplete term. After the deadline, the "I" becomes an "F." Upon completion of the coursework, the grade will be entered as I/grade on the student transcript. All "I"s must be changed to grades prior to graduation.

Instructor Grading Criteria:

Students must adhere to the testing schedule. Failure to take a test will result in a "0" for the missed exam. Exceptions include work, family, or personal (health) emergency, and must be documented.

Only one make-up exam per semester is allowed (with proper documentation) and must be arranged with the instructor as soon as possible. There is no repeating of examinations or "dropping" of lowest grade/s. Do not ask the instructor for the rationale or reason for your grade. It is your responsibility to keep in touch with the class.

Unit exams may include multiple choices, true/false and short answer questions.

HCC Policy Statement: Sexual Misconduct

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination based on sex-including pregnancy and parental status-in educational programs and activities. If you require an accommodation due to pregnancy, please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the

Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to: David Cross Director EEO/Compliance Office of Institutional Equity & Diversity

3100 Main (713) 718-8271 Houston, TX 77266-7517 or Houston, TX 77266-7517 or Institutional.Equity@hccs.edu

EGLS₃ (Evaluation for Greater Learning Student Survey System)

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time near the end of the term, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and department chairs for continual improvement of instruction. Go to www.hccs.edu/egls3 for more information

Final Note: The Instructor reserves the right to modify any part of this syllabus when necessary with adequate notification to the students.

Scoring Rubrics:

Your grade will be determined by your scores on the assessments given by your instructor and grades will be available within 7 days after the test.

DISCLAIMER: It is your responsibility to read the syllabus in its entirety and contact the Instructor if you have any questions and/or need clarifications.