HOUSTON COMMUNITY COLLEGE

Department of Natural Sciences
GEOLOGY Program
http://www.hccs.edu/geology

GEOL 1403: Physical Geology | Lecture & Lab | CRN#11129

Summer II 2020 | 5 Weeks (07/13/2020-08/16/2020)
Online
4 Credit Hours | 96 hours per semester

Instructor Contact Information

Instructor:	Peter Azah Abanda, Ph.D.	Office Phone:	713-718-6764
Office:	WLC Faculty Area	Office Hours:	T-TH 12:00-2:0 p.m.
HCC Email:	peter.abanda@hccs.edu	Office Location:	WLC, Faculty Area

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear your concerns and just to discuss course topics.

Instructor's Preferred Method of Contact

I will respond to emails within 24 hours Monday through Friday; I may only reply to weekend messages on Monday mornings.

Important dates to remember:

Date	Event
Jul 10, 2020	Last Day for 100% refund
Jul 13, 2020	Classes Begin
Jul 16, 2020	Official Day of Record
Jul 17, 2020	Last Day for 70% refund
Jul 20, 2020	Last Day for 25% refund
Aug 3, 2020	Last day to withdraw
Aug 11, 2020	Last day of instruction
Aug 16, 2020	Semester Ends

The Department of Natural Science can be contacted via phone 713-718-6050 or email natural.sciences@hccs.edu

What's Exciting About This Course

The purpose of this Physical Geology course is to enable students to use fact and observation to make interpretations about geologic processes operating today and in the past. Students will be introduced to the theory of plate tectonics, explaining many processes such as mountain building, volcanism, and Earthquakes happening. They will use observations on earth materials like minerals and rocks. Other questions to be addressed, deal with the

different earth systems and their interactions that may affect the landscape, modify the landscape.
Students will learn to interpret data from a variety of resources including topographic maps. They will be able to identify and interpret the basic deformation structures within the earth's crust.

My Personal Welcome

Welcome to Physical Geology—I'm glad that you have chosen this course. I will try my best to pass on the knowledge I have in the field of geology to every student. I will present the information in an easy and effective way, so that you can understand the concepts and master the content for a better achievement, and to apply it hopefully throughout your life. As you get familiar with new ideas and facts that may challenge you, I will be available to support you. So please visit me online or contact me whenever you have a question.

Prerequisites and/or Co-Requisites

GEOL 1403 requires college-level reading and math skills. The minimum requirements for enrollment in GEOL 1403 is qualifying to enroll in INRW 0420 or ESOL 0370/0360 as well as place into MATH 0314 or higher. Please carefully read and consider the repeater policy in the HCCS Student Handbook.

Eagle Online Canvas Learning Management System

This section of GEOL 1403 is online and will use Eagle Online Canvas (https://eagleonline.hccs.edu) as the platform to deliver content, carry out courses assessments, communicate with students and to post grades. You will also access your ebook for the lecture section and lab through Canvas.
HCCS Open Lab locations may not be used this summer to access the Internet and Eagle Online Canvas because of campus closure due to Corona virus. Online library resources are available to you and librarians are available to work with you online. It is recommended that you **USE FIREFOX OR CHROME AS YOUR BROWSER** when working on Canvas.

HCC Online Information and Policies

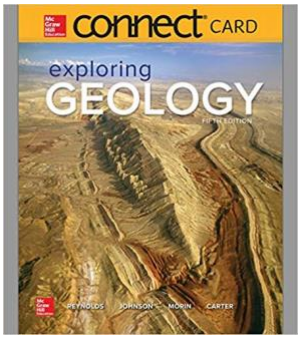
Here is the link to information about HCC Online classes including the required Online Orientation for all fully online classes: http://www.hccs.edu/online/.

Scoring Rubrics, Sample Assignments, etc.

Look in Eagle Online Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. Also be sure to check in for announcements. https://eagleonline.hccs.edu/

Instructional Materials

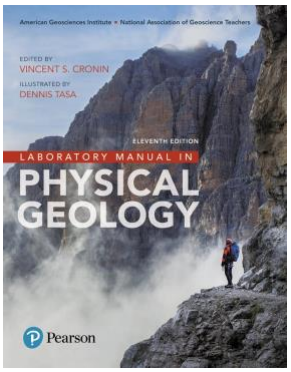
Textbook Information



The textbook listed below is ***required*** for this course.
"Exploring Geology" (5th edition) by Reynolds et al (McGraw-Hill, 2018). Digital book via *Connect* ISBN: 9781260139976

This ebook on the *Connect* system is included in the course fees as "First Day access". See below section for more information.

Once you log-in to the Connect system you have the option of ordering a loose-leaf copy of the book if you would like a hardcopy.



The Lab Book listed below is ***required* and Mandatory** for this course.
"Laboratory Manual in Physical Geology" (11th edition) edited by Cronin (Pearson, 2017) ISBN: 9780134446608.
Important:
Students must purchase a digital copy of the lab book online through Pearson website linked to Canvas. You may have 2 weeks of courtesy access to the lab book but will need a code for continuous access beyond the 2 weeks periods. The lab makes up 25% of your course grade so it is important to purchase the lab code before the end of the 2 weeks trial period.

About First Day Access

This course is a course participating in First Day Access! You will receive immediate access to an electronic version of the required lecture textbook only (**Exploring Geology, 5th ed, Reynolds et al.***)*, via ***Connect*** in EagleOnline. The charge for electronic access to Connect is billed through your tuition and fees statement at Houston Community College. Instructors will have instructions about finalizing registration to access Connect, the McGraw-Hill system where the book and other materials are accessed. Cost of book access is part of student's course fees which is a much lower cost than retail.
Student may "opt out" of included access, but then will need to pay for book access on their own which costs more. The opt-out access is through the "course materials" link in the course EagleOnline page and will trigger a refund process from the HCC business office.
Students may also purchase a loose-leaf copy of the textbook from McGraw-Hill if they would like a physical copy of the text (Not required). This option is available from within the student's Connect account.

About the Textbook

This is a unique textbook designed to help you learn geologic concepts and processes on your own. Nearly all the information in the book is built around illustrations and photographs, rather than being in long blocks of text. The entire book consists of a series of two-page spreads organized into chapters. Each two-page spread is a self-contained block of information about a specific topic and has a short list indicating what you should be able to do before you leave these pages. The What-To-Know List is your guide to what is important. If, when studying from the book, you construct your own answer to each item on the What-To-Know List, then I predict you will receive an A in the class. Each two-page spread in the book has a unique number (e.g., 12.4), and these numbers are referenced for quizzes and

other course assignments. Each chapter ends with an investigation concerning a problem associated with a "virtual place".

Other Instructional Resources

Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the HCC Tutoring Services website for services provided.

Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at http://library.hccs.edu.
Check out the Geology LibGuide maintained by the HCC library
https://library.hccs.edu/geology

Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at http://www.hccs.edu/resources-for/current-students/supplemental-instruction/.

Course Overview

GEOL 1403 is introductory lab-based geology course. Introduction to the study of the materials and processes that have modified and shaped the surface and interior of Earth over time. These processes are described by theories based on experimental data and geologic data gathered from field observations. Laboratory activities will cover methods used to collect and analyze earth science data. This course is required as the introductory course in most geology undergraduate programs and is the prerequisite for GEOL 1404.

Core Curriculum Objectives (CCOs)

GEOL 1403 satisfies the social science requirement in the HCCS core curriculum. The HCCS Geology Program Committee has specified that the course address the following core objectives:

- ***Critical Thinking***: Students will demonstrate the ability to engage in inquiry and analysis, evaluation and synthesis of information, and creative thinking. Students will
- ***Communication Skills***: Students will demonstrate effective development, interpretation and expression of ideas through written, oral, and visual communication. For example, students will construct well labeled concept sketches of geologic processes or settings to demonstrate understanding.
- ***Quantitative and Empirical Literacy***: Students will demonstrate the ability to draw conclusions based on the systematic analysis of topics using observation, experiment, and/or numerical skills. Exercises based around maps, sample identification, geologic

structure analysis, and landscape evaluation are examples of how these objectives will be encountered.

- ***Teamwork***: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal by working together with other classmates on assignments or a project during the semester. Many lab assignments may be completed in teams.

Program Student Learning Outcomes (PSLOs)

Can be found at:
https://learning.hccs.edu/programs/geology

Course Student Learning Outcomes (CSLOs)

Upon completion of GEOL 1403, the student will be able to:

1. Describe how the scientific method has led to our current understanding of Earth's structure and processes.
2. Interpret the origin and distribution of minerals, rocks and geologic resources.
3. Describe the theory of plate tectonics and its relationship to the formation and distribution of Earth's crustal features.
4. Quantify the rates of physical and chemical processes acting on Earth and how these processes fit into the context of geologic time.
5. Communicate how surface processes are driven by interactions among Earth's systems (e.g., the geosphere, hydrosphere, biosphere, and atmosphere).
6. Identify and describe the internal structure and dynamics of Earth.
7. Describe the interaction of humans with Earth (e.g., resource development or hazard assessment).
8. (Lab) Classify rocks and minerals based on chemical composition, physical properties, and origin.
9. (Lab) Apply knowledge of topographic maps to quantify geometrical aspects of topography.
10. (Lab) Identify landforms on maps, diagrams, and/or photographs and explain the processes that created them.
11. (Lab) Differentiate the types of plate boundaries and their associated features on maps and profiles and explain the processes that occur at each type of boundary.
12. (Lab) Identify basic structural features on maps, block diagrams and cross sections and infer how they were created.
13. (Lab) Demonstrate the collection, analysis, and reporting of data.

Learning Objectives

1. Defend or criticize the evidence for Plate Tectonics.

2.1 Compare the formation of igneous, sedimentary and metamorphic rocks
2.2 Explain distribution and formation of fossil fuel and mineral resources.

3.1. Identify the major physiographic features of the oceans and continents related to their plate tectonic setting
3.2. Sketch the different types of plate boundaries and label the features.

4.1 Evaluate the movement of the continents from the formation of Pangaea to present day positions.

4.2 Compare rates of geologic surface processes (e.g., rate of glacial retreat, erosion, coastal retreat)

5.1 Describe the combination of processes that shape landforms.
5.2 Evaluate how the biosphere affects rates of chemical weathering.

6.1 Draw and label a diagram of the interior of the earth.
6.2 Describe how Earth's internal structure impacts plate motion.

7.1 Discuss human modification of Earth's surface and how it contributes to geologic hazards (e.g., dams, highways, wetland development).

8.1. Identify a variety of common rock-forming minerals using physical properties.
8.2. Identify igneous, sedimentary and metamorphic rocks using texture and composition.

9.1. Read, interpret, analyze and understand topographic maps and geological profiles in terms of relief, contour intervals, and elevation.
9.2. Construct topographic maps with provided data.

10.1. Use various forms of technology (e.g., Google Earth, stereo photographs) to identify landforms.

11.1 Draw and label a profile of a subduction zone and a divergent boundary.
11.2 Identify the plate boundary types based on landforms seen on the map (e.g., offset rivers along transform fault)

12.1 Label and interpret folds and faults on geologic maps and cross-sections.
12.2 Interpret the geologic structures in relation to plate tectonic stresses.

13.1. Locate the epicenter of an earthquake by reading a seismogram.

Student Success

Expect to spend at least 3 hours per day studying the course content and completing the course assignments. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook via eBook or SmartBook
- Attending organized virtual class sessions online
- Completing all assignments on time
- Participating in class activities like discussion exercises

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as your guide. I will not be giving any extra credit work considering the semester is only 5 weeks.

Instructor and Student Responsibilities

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 learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and make up
- Provide the course outline and class calendar which will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to**:**

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

Assignments, Exams, and Activities

Exams

- 2 Lecture exams (multiple choice/True or false questions, short essay questions). Date of these exams are subject to change.
- 1 Lab. exams (open ended questions/virtual simulations, interpreting, labeling and measuring).
- A make up exam will be given ONLY if the student has a legitimate reason and notifies the instructor within 24 hours of the exam date. In addition, the exam must be made up by the next class period or within 48hrs after the regularly scheduled time. Only one major exam may be made up.

Laboratory Exercises

This course contains a lab section, which complements and reinforces the concepts that are taught in lectures. Labs will be online-virtual labs. You may be required to complete some activities on paper, take pictures and submit. Due dates will be assigned. All labs must be done at the regularly scheduled lab time; no make-up labs will be given. Late submissions will not be accepted. Lab exercises and assignments are designed to complement the lecture and give you hands-on experience with the concepts covered in lecture. Thinking through and understanding lab assignments is a big step toward learning the material. Although this laboratory section of this class does not give separate credit, it does represent a 25% of the overall grade for the course. If you do not submit a particular lab activity on time, you will receive a zero.

Assignments or Projects

Include written assignments, oral assignments, projects, will be communicated to students during the semester. You may be assigned a term project and details will be sent as an announcement.

Final Exam

The final exam cannot be made up. Final exam will be a multiple choice, writing and true or false questions test. It will be on all materials taught in this class. Be sure to complete the

final review assignment. This review carries no points but will help you do well on the final exam!

Grading Formula

TYPE OF ASSESSMENT	# OF ASESSMENTS	POINTS	TOTAL POINTS
Mid semester unit Exams	**2**	**150 x 2**	**300**
Final Exam	**1**	**200**	**200**
Discussion	**Multiple**	**100**	**100**
In class and online quizzes and homework	**Various**	**150**	**150**
Labs and lab exam	**Various**	**250**	**250**
		Total	**1000**

HCC Grading Scale can be found on this site under Academic Information: http://www.hccs.edu/resources-for/current-students/student-handbook/

Course Calendar

Due dates	Assignments: Chp readings, discussion, labs, exams etc.
Jul-13, 2020	Introduction, Connect and MyLab and Mastering registration. Read chp 1 The nature of geology. *Chp 1 and complete*
Jul-14, 2020	Complete Lab #1. Filling Your Geoscience Notebook and intro discussion exercise Complete intro discussion exercise
Jul-15, 2020	Read *chp 2* Investigating geologic questions and complete reading practice exercise and take quiz
Jul-16, 2020	Complete Lab #4. Rock forming processes and the rock cycle.
Jul-17, 2020	Read Plate Tectonics Theory *Chp 3,* complete reading practice exercise and take quiz
Jul-19, 2020	Complete lab 2-Plate Tectonics Theory*. Chp 3*
Jul-20, 2020	Earth materials – Composition, structure, properties and classification of minerals. *Chp 4* complete reading practice exercise and take quiz
Jul-21, 2020	Read Igneous environments - texture, composition, and environment of formation of igneous rocks. *Chp 5 and* complete reading practice exercise and take quiz
Jul-22, 2020	Complete Lab 3- Minerals Minerals discussion
Jul-23, 2020	Review and take Exam 1. Exam will cover *Chp* 1, 2, 3, & 4
Jul-24, 2020	Complete Lab #5 – Igneous rocks and processes. Discussion: Igneous rocks.
Jul-25, 2020	Complete scientist spotlight discussion

Jul-27, 2020	Read volcanoes and volcanic hazards *Chp 6,* complete reading practice exercise and take quiz
Jul-28, 2020	Complete Lab #9. Topographic maps
Jul-29, 2020	Sedimentary environments and rocks, energy resources from sedimentary rocks. *Chp 7,* complete reading practice exercise and take quiz
Jul-30, 2020	Complete Lab #6. Sedimentary Processes, Rocks, and Environments. Sedimentary rock discussion.
Aug-01, 2020	Read Deformation and Metamorphism *Chp 8,* complete reading practice exercise and take quiz.
Aug-03, 2020	Complete Lab #7. Metamorphic rocks, processes, and Resources. Metamorphic rock discussion
Aug-04, 2020	*Review and take Exam #2. Exam will cover chapters 5, 6, 7, & 8*
Aug-05, 2020	Read Earthquakes and earth interior *Chp 12,* complete reading practice exercise and take quiz. Complete Lab #16- Earthquakes Complete discussion on earthquakes.
Aug-06, 2020	Read Streams and flooding *Chp 16,* complete reading practice exercise and take quiz. Complete Lab #11. Stream processes, Landscapes, Mass Wasting and Flood Hazards.
Aug-07, 2020	Read Weathering, soil and unstable slopes *chp 15,* complete reading practice exercise and take quiz. Complete Mass wasting application base activity
Aug-8, 2020	Complete Special topic discussion
Aug-09, 2020	Climate, weather and their influence on geology *Chp 13*
Aug-10, 2020	Complete application base activities (Earthquake potential and subduction zone)
Aug-11, 2020	Take Lab Exam
Aug-12, 2020	Final Exam

Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Instructor's Practices and Procedures

Missed Assignments

Everybody in this class should complete all exams to have a final grade. Your instructor may allow makeups on a case-by-case basis. Makeup exams must be taken no later than 48 hrs after the day of the missed exam. Make-up exam is not a retake. That is, make-up exams are allowed only for missed exams.

Academic Integrity

Students are responsible for conducting themselves with 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 particular 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.

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance): http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/

Attendance Procedures

This is an online course and you are required to log in daily to complete your assignments and check course announcements. I will use the course activity log to track student attendance. You will be marked absent and No Show reported on census day if you do not log into the course in Canvas or send me an email to let me know should you have any difficulty accessing the platform.

Student Conduct

Only good behavior is tolerated in class. Disruptive students will be dealt with according to the procedure showing on the Student code of conduct.

Instructor's Course-Specific Information (As Needed)

See grading formula above. The total score in Canvas is a reflection of your performance in the class at any point during the semester.
Regular and prompt classroom attendance is a critical component of the educational experience because it prepares you the student to be effective and a responsible citizen. Students are expected to contact the instructor regarding any absence before class, or within 24 hours in case of an emergency, just as they would contact an employer regarding any absence from their jobs. With proper notification, the student may be given the opportunity to make up missed work by the next class period. Students are responsible for any material covered in class during their absence. Regardless of the reason or excuse, excessive absences, tardiness, or early departures from class will negatively affect course grades. Students are encouraged to attend class regularly, take notes and be prepared to engage in classroom discussions.

Electronic Devices

Cellphones should be on put on silent during class and lab meetings. No recording of lectures or taking pictures unless authorized to do so.

Geology Program Information

The Geology Program faculty are excited you are participating in this course! Please visit the Learning Web page to find additional information about the HCC Geology degree plan, links to Geoscience programs across Texas, careers in Geosciences, Diversity in Geosciences, and program contact information.
https://learning.hccs.edu/programs/geology

Additionally, students can find more information about Science, Technology, Engineering, and Math (STEM) opportunities and events on the HCC STEM page: https://www.hccs.edu/stem

HCC Policies

Here's the link to the HCC Student Handbook http://www.hccs.edu/resources-for/current-students/student-handbook/ In it you will find information about the following:

Academic Information	Incomplete Grades

Academic Support	International Student Services
Attendance, Repeating Courses, and Withdrawal	Health Awareness
Career Planning and Job Search	Libraries/Bookstore
Childcare	Police Services & Campus Safety
disAbility Support Services	Student Life at HCC
Electronic Devices	Student Rights and Responsibilities
Equal Educational Opportunity	Student Services
Financial Aid TV (FATV)	Testing
General Student Complaints	Transfer Planning
Grade of FX	Veteran Services

EGLS3

The EGLS3 (Evaluation for Greater Learning Student Survey System) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS3 surveys are only available for the Fall and Spring semesters. EGLS3 surveys are not offered during the Summer semester due to logistical constraints.
http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/

Campus Carry Link

Here's the link to the HCC information about Campus Carry:
http://www.hccs.edu/departments/police/campus-carry/

HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to HCC Eagle ID and activate it now. You may also use Canvas Inbox to communicate.

Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (http://www.hccs.edu/departments/institutional-equity/)

disAbility Services

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 in order 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/

Title IX

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 on the basis of 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 Institutional.Equity@hccs.edu
http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/

Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/

Department Chair Contact Information

Chair of Department of Natural Sciences:
Dr. Kumela Tafa (kumela.tafa@hccs.edu) office phone: 713-718-5569