**GEOLOGY OF NATIONAL PARKS**

**GLY 2160**

**COURSE INFORMATION AND GRADING POLICY**

**SPRING, 2017**

**PROFESSOR: DR. GUSTAVO MORALES**

**OFFICE: WEST CAMPUS, 1-221**

**OFFICE HOURS**: 12:00 pm –4:00 pm: Monday and Wednesday

1:00 PM – 5:00 pm: Tuesday and Thursday

10:00 am- 1:00 pm: Friday (Virtual Hours)

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**COURSE**: Geology of National Parks-3 credit hours.

**PREREQUISITES:** None

**COURSE DESCRIPTION**

Overall view and study of National Parks with emphasis on geological features and processes the formed them.

**COURSE OBJECTIVES**

There are presently 58 National Parks. They were chosen for their beauty and interesting geologic history. This course will deal with their geology emphasizing their origin and perhaps their future. Each park will be preceded by a geologic lecture and then how it applies to the chosen park. Although we will study specific parks and tie them to a specific geologic process, most parks encompass many geologic features. As we learn more we will apply them to subsequent chapters.

**LEARNING OUTCOMES**

After completion of this course, students should be able to do the following:

1. Describe major groups of rock-forming minerals and the rock cycle, and categorize the three main types of rocks.
2. Examine the general physiography and geology of the U.S.
3. Describe evidence to support the theory of plate tectonics, and compare and contrast the three types of plate boundaries.
4. Describe volcanoes, and compare and contrast the various types.
5. Compare and contrast brittle and ductile deformation and describe the main types of folds, fractures, and faults.
6. Analyze various landforms that result from stream erosion and deposition.
7. Investigate ground water as a geologic agent of erosion, with emphasis on caves and karst features.
8. Compare and contrast the major types of coastal margins, and determine the origin of major types of coastal features.
9. Investigate a national park to determine history and processes of formation.

**VALENCIA COLLEGE CORE COMPETENCIES**

The faculty of Valencia College has identified four core competencies that define the

learning outcomes for a successful Valencia graduate. These competencies are at the

heart of the Valencia experience and provide the context for learning and assessment at

Valencia College. You will be given opportunities to develop and practice these

competencies in this class. The four competencies are:

1. **Think:** think, clearly,and creatively, analyze, synthesize, integrate and evaluate in the

many domains of human inquiry.

2. **Value:** make reasoned judgments and responsible commitments.

3. **Communicate:** communicate with different audiences using varied means.

4. **Act:** act purposefully, effectively and responsibly.

**TEXTBOOK**

**There is not text-book for this course!** All the information you need for every park is available online. Dr. Richard B. Alley, professor of geology at Penn. State has graciously agreed to let me use some of his materials for this course. I have modified most of them to better suit this class. I must also acknowledge the help I received from James Adamski, PG, professor of geology at Valencia’s East Campus.

**SUPPLEMENT:** Internet

**ATTENDANCE**

I will check attendance every day using a seating chart. It behooves you to arrive on time.

**COURSE FORMAT**

This course will draw heavily on the online resources. You will also have at your disposal 18 videos to supplement your readings. You will have direct access to all videos right there in your computer screen. Simply select the video you wish to view and click!

**EXAMS**

There will be **FOURTEEN** exams during the semester. Exams will be multiple-choice and true-false; the questions will be based on the chapter objectives. All exams will be taken online. You will have a full week (from Monday to Sunday) to study each chapter. Exams can be taken any time between **6:00 am on Friday till 11:30 pm on Sunday**. Once the exam is open you will have one hour to complete it**.** Do not wait to the last minute to take your exams; strange things happen to computers after 11:00 pm on Sunday. **Hint! Hint! Hint!** Each weekly exam is worth 100 points.

**Blackboard does not accept late work…neither do I**!

**GRADING**

The final grade will be determined by the following point system:

**POINTS**

Weekly Exams……………………….. 1400

**TOTAL POINTS……………………. 1400**

The final grade earned by the student will be calculated as a percentage of the total points possible during the semester (90%--100% = A, 80%--89% = B, 70%--79% = C...).

**WARNING:**

This course takes as much time as a any other course you have taken. **You**, and **you alone** are responsible for allocating a reasonable amount of time for each activity. Think carefully about what you have just read to make sure that you have the self-discipline and motivation to take this course. If you have decided that this course is for you, then forge on! You are about to take one of the most interesting and intriguing courses of your entire career. Congratulations on a challenging choice!!!

**RESPONSIBILITY**

It is your responsibility to take the exams on the set dates. **There are no make- ups!**

It behooves you to check your e-mail **often** in case there are issues to discuss. **ALWAYS, ALWAYS, ALWAYS** use the message feature in Blackboard to e-mail me. When you use this means of communication I will know immediately in which class you are enrolled. E-mails sent by any other conduit will not be answered!

**EXTRA CREDIT**

**Extra credit** is a travesty of the educational system! It is usually invoked in the last two weeks of the semester by students who have not taken the time to do what is required for the course. I do not want you to do extra work, just the work **I demand** and **expect** from you, a COLLEGE STUDENT, to master the material and pass the course with a decent grade. Remember that the only place where ***success*** comes before ***work***…is in the **dictionary!**

**WITHDRAWAL POLICY**

There are two Drop Deadlines you should be aware of. The first one is: **Drop/Refund deadline (January 17, 2017 @ 11:59 p.m.).**

The second one is: Per Valencia policy 4-07 (Academic Progress, Course Attendance and Grades, and Withdrawals), a student who withdraws from class before the withdrawal deadline of **March 31, 2017 @ 11:59 p.m.**, will receive a grade of “W.” A student is not permitted to withdraw after the withdrawal deadline. A faculty member MAY withdraw a student up to the beginning of the final exam period for violation of the class attendance policy; such student will receive a grade of “W.” Any student who withdraws or is withdrawn from a class during a third or subsequent attempt in the same course will be assigned a grade of “F.” [For a complete policy and procedure overview on Valencia Policy 4-07 please go to: http://valenciacc.edu/generalcounsel/policydetail.cfm?RecordID=75].

**DISCLAIMER**

This syllabus may be modified at any time by the professor for the benefit of the class. Modifications will be announced to the class and their impact on the final

outcome discussed.

**GEOLOGY OF NATIONAL PARKS**

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**COURSE SCHEDULE**

**SPRING, 2017**

**FIRST WEEK**

January 9-15

**Chapter 1 – Matter and Minerals**

Video 1. Minerals (12. Minerals: The Materials of the Earth**)**

January 13-15

**Exam 1: Chapter 1**

**January 17 –Drop/Refund Deadline**

**SECOND WEEK**

January 16-22

**Chapter 2 – Rocks: Materials of the Solid Earth**

Video 2a. Igneous Rocks (14. Intrusive Igneous Rocks)

Video 2b. Weathering (15. Weathering and Soils)

Video 2c. Sedimentary Rocks (17. Sedimentary Rocks: The Key to

Past Environments)

Video 2d. Metamorphic Rocks (18. Metamorphic Rocks)

January 20-22

**Exam 2: Chapter 2**

**THIRD WEEK**

January 23-29

**Chapter 3. YELLOWSTONE NATIONAL PARK**

**– Volcanoes and Other Igneous Activity**

Video 3. Volcanism (13. Volcanism)

January 27-29

**Exam 3: Chapter 3**

**FOURTH WEEK**

January 30-February 5

**Chapter 4– BRYCE CANYON**

Video 2c. Sedimentary Rocks (17. Sedimentary Rocks: The Key to

Past Environments)

Video 4a. Mass Wasting (16. Mass Wasting)

Video 4b. Weathering (15. Weathering and Soils)

February 3-5

**Exam 4: Chapter 4**

**FIFTH WEEK**

February 6-12

**Chapter 5 – GRAND CANYON**

**Geologic Time**

Video 5a. Geologic Time (10. Geologic Time)

**Landscapes Fashioned by Water**

Video 5b. Running Water (19. Running Water I: Rivers, Erosion and Deposition)

February 10-12

**Exam 5: Chapter 5**

**SIXTH WEEK**

February 13-19

**Chapter 6 – MAMMOTH AND CARLSBAD CAVERNS**

**Chapter 6. Landscapes Fashioned by Water**

Video 6. Groundwater (21. Groundwater)

February 17-19

**Exam 6: Chapter 6**

**SEVENTH WEEK**

February 20-26

**Chapter 7 – CRATER LAKE, MT. ST. HELENS, OLYMPIC NATIONAL PARK**

**Plate Tectonics: A Scientific Theory Unfolds**

Video 7a. The Birth of a Theory (5. The Birth of a Theory)

Video 7b. Plate Dynamics (6. Plate Dynamics)

Video 7c. Earth’s Interior (3. Earth’s Interior)

February 24-26

**Exam 7: Chapter 7**

**EIGHTH WEEK**

February 27-March 5

**Chapter 8: DEATH VALLEY**

**Plate Tectonics: A Scientific Theory Unfolds**

Video 7a. The Birth of a Theory (5. The Birth of a Theory)

Video 7b. Plate Dynamics (6. Plate Dynamics)

Video 7c. Earth’s Interior (3. Earth’s Interior)

March 3-5

**NINTH WEEK**

March 6-12

**Chapter 9: THE GREAT SMOKY MOUNTAINS**

**Plate Tectonics: A Scientific Theory Unfolds**

Video 7a. The Birth of a Theory (5. The Birth of a Theory)

Video 7b. Plate Dynamics (6. Plate Dynamics)

Video 7c. Earth’s Interior (3. Earth’s Interior)

March 10-12

**Exam 9: Chapter 9**

WORK IN PROGRESS

**TENTH WEEK**

**MARCH 13-19**-**SPRING BREAK**

**Chapter 4 – Glacial and Arid Landscapes**

Video 4a. Wind and Deserts (22. Wind, Dust and Deserts)

Video 4b. Glaciers (23. Glaciers)

**ELEVENTH WEEK**

March 20-26

**Chapter 10 –**

March 24-26

**Exam 10: Chapter 10**

**TWELFTH WEEK**

March 27-April 2

**Chapter 11 –**

March 31-April 2

**Exam 11: Chapter 11**

**March 1 –WITHDRAWAL DEADLINE**

**THIRTEENTH WEEK**

April 3-9

**Chapter 12 –**

Video 12. Humidity and Fronts

April 7-9

**Exam 12: Chapter 12**

**FOURTEENTH WEEK**

April 10-16

**Chapter 13 –**

Video 13. Pressure and Winds

April 14-16

**Exam 13: Chapter 13**

**FIFTEENTH WEEK**

April 7-23

**Chapter 14.**

**SIXTEENTH WEEK**

April 21-24 ( Yes April 24 is a Monday)

**FINAL EXAM:**

Chapter 14