I. COURSE DESCRIPTION:

• This course examines natural events that dramatically affect life on Earth. The emphasis will be upon the geological principles underlying natural events, such as earthquakes, tsunami, volcanoes, landslides, floods, severe weather, and asteroid/comet impacts. Case studies will be drawn from all over the world.

• The course involves inquiry into the scientific disciplines of geology mostly, but also some astronomy, meteorology, and oceanography to explore the dynamic interactions between human civilization and planet Earth. It is, therefore, important to understand the interdisciplinary nature of this course, not just the terminology. Exam questions will reinforce this.

• You will learn which areas are susceptible to natural hazards and when these hazards become disasters. You'll also learn practical ways to mitigate the effects of natural disasters.

General Education Requirement
This course fulfills the following SDSU General Education Requirement: IV EXPLORATIONS - Natural Sciences.

II. OVERARCHING GOALS/OUTCOMES. After completion of this course students will be able to:

1. Think logically, critically, and contextually in assessing evidence and arguments in a variety of academic settings.
2. Locate, analyze, synthesize, and evaluate information, making use of appropriate technologies.
3. Speak and write clearly, coherently, and effectively, adapting modes of communication to the audience.

Through the successful completion of the course, students will be able to:

• Explain why the “Earth system” is an integrative system across many scientific disciplines.
• Articulate how the scientific method is used to infer the causes of global-scale changes that are affecting planet Earth through time.
• Identify and describe examples of everyday observations that indicate that Earth is dynamic and ever changing, and how these observations impact our daily lives.
• Explain how experimentation and data analysis have lead to an enhanced understanding of earth processes, and as a result, how the Earth has and will continue to impact our quality of life.
The above overarching goals are intertwined with the following specific content goals:

**III. CONTENT GOALS/OUTCOMES.** To meet content goals students will be able to:

1. Apply critical thinking to scientific questions primarily focused on Earth system processes and their interactions with civilization. Identify the scientific principles and analytical tools used by earth scientists in developing and scrutinizing theories on the Earth's evolution.

2. Identify the mechanical attributes and chemical properties of the Earth's interior, as well as the types and sources of heat energy that drive the motion of tectonic plates and produce all of the natural events and hazards that humans face.

3. Discriminate between the different attributes of natural disasters, such as type, magnitude, frequency and recurrence interval, duration, aerial extent, and speed of onset.

4. Describe the nature of human population growth and the consequent lethality of natural disasters, and ascertain the causes for each of these phenomena.

5. Understand the origin of the solar system and of Earth and its relationship to space object impacts with the Earth. Articulate the various types of space debris that can collide with and excavate craters on the surface of our planet.

6. Convey the vastness of geologic time and key biological and physical events that have affected Earth through time, such as mass extinctions; be able to articulate how the geologic time scale was built.

7. Articulate the role that lithospheric tectonic plates and their movements play in shaping the Earth’s topography, including its mountain ranges and ocean basins.

8. Distinguish the three major rock groups based on their physical characteristics and modes of formation. Be able to explain and apply the concepts of the rock cycle and its relationship to the different tectonic regimes.

9. Identify the different types of faults and demonstrate an understanding of their origin and tectonic regime, distribution, hazards, and relationship to earthquakes, and subsequent impact on people.

10. Identify the different types of volcanoes and demonstrate an understanding of their origin and tectonic regime, distribution, hazards, and relationship to volcanic eruptions, and subsequent impact on people.

11. Analyze the genesis, tectonic implications, distribution and effects of tsunami, and subsequent impact on people.

12. Identify major types of mass wasting events, their genesis, their distribution, their subsequent impact on people, and their relationship to other natural phenomena.

13. Analyze the basic principles of weather science and apply those principles to everyday experiences. Understand the nature of the present and past climate changes.

14. Predict the atmospheric conditions that give rise to severe weather, such as hurricanes, thunderstorms, tornadoes, lightning, fire, and floods. Understand the characteristics of each of these types of severe weather and their impact on people.

In order to develop these abilities, San Diego State University's General Education program, and this class, will allow you to develop and meet the following seven essential capacities:

1. Construct, analyze, and communicate arguments;
2. Apply theoretical models to the real world;
3. Contextualize phenomena;
4. Negotiate differences;
5. Integrate global and local perspectives;
6. Illustrate relevance of concepts across boundaries;
7. Evaluate consequences of actions.
IV. REQUIREMENTS AND GRADING:

3 Exams (at 100 points each), 2 out of 3 count_________________200
Final exam______________________________________________150
Set of Assignments/Quizzes through Blackboard______________100  Total Points: 450

If total points = 450, then 405 and above = A; 360 and above = B; 315 and above = C; 270 and above = D; below 270 = F
Straight scale: A=90-100%; B=80-89.99%; C=70-79.99%; D=60-69.99%; and F=below 60%.

[For ex, let’s say your totals= 349 points out of 450; then multiply 349 by 100% and divide by 450 = 77.6%, or a C] Grades within 2% of a boundary will receive + or –
Blackboard does NOT compute your final grade. It just adds up all the points that you earned in a total for me. At the end of term I take that total into Excel and compute your grade out of 450 points.

Incomplete: The “Incomplete” grade is only for unforeseeable, emergency, tragic, and justifiable reasons at the end of the term, and only upon a contract stating conditions for completing coursework. It’s not given to students who aren’t doing well and/or may be failing the course.

You are the person responsible for your grade, not me, so be aware of and adhere to the course requirements and deadlines.

Note: No extra credit given to anyone at all. No exceptions! This is work not specified on a course syllabus.

• EXAMS – You will have a total of 4 exams this semester: 3 semester exams and a mandatory final. All exams will be in person on campus. You are required to take all exams. I will take the best 2 scores out of your first 3 exams. The lowest exam score will be dropped for your convenience at semester’s end. The final is not dropped. It will be cumulative, but will emphasize extensively the last section of the semester, which is severe weather. All exams consist of MC, matching, and TF questions. There is no essay portion to the exams.

Exam questions will be drawn very heavily from my archived lectures, but any material covered by online quizzes and exercises, documentary films, and textbook readings may be included.

Exam Protocols:
- You will not be allowed to leave the classroom for any reason during exams.
- You will not be accepted into the classroom during an exam if you arrive after the first student left.
- Grading errors or questions, if any, must be brought to my attention within 1 week of receiving an exam/assignment score.
- You are not allowed notes or textbooks of any kind during an exam.
- Handling a mobile phone during exams, as well as ANY other type of electronic devices, including electronic dictionaries and calculators, is expressly prohibited. No exceptions!

I do not give you “tricky” questions; I give you “do you understand” questions. I ask questions that test your comprehension of concepts, not just the regurgitation of facts. It’s important, therefore, to apply yourself every day and early on.

Please note: Exams CANNOT be made up. Exams will not be re-scheduled for your personal convenience. Even though they’re all required, if you must miss an exam, for whatever the reason, then that is the exam that you will drop. I do not make any exceptions to this at all. Plan straight away on taking ALL exams.

Missing an exam with excuses like but not exhaustive of “forgetting about the exam”, “oversleeping”, “my dog ate my notes”, or any type of “work schedules, airline conflicts, traffic accidents, sick parents, sick
roommates, sick pets, dead uncles or dead grandmothers”, or “aunts who committed suicide but whose bodies haven’t been found yet”, etc, will not be tolerated. This is the exam that you drop.

**Scantrons (for exams only):** You must bring the small red scantron form Parscore F-289. You must bring a #2 pencil for exams. You will not be admitted to the tests without this scantron. **Note:** You must erase your scantron answers completely, when appropriate. You must also fill in the Test Form box. Failure to do any of this will result in lower scores, or no score, because the scanning computer is not able to make out your answers or match them to my key.

**Exam schedule:** The semester exams are scheduled for Fridays between 3 and 430 PM. You’ll need to immediately set aside these times for your exams. Please check the last page for this complete schedule.

- **EXAM 1 – Friday, 26 Sept, in AL-201** (covers Geology intro topics, population, impacts, extinctions)
- **EXAM 2 – Friday, 24 Oct, in GMCS-333** (covers plate tectonics, earthquakes, tsunami)
- **EXAM 3 – Friday, 21 Nov, in AL-201** (covers volcanoes, mass wasting)
- **EXAM 4 – Wednesday, 17 Dec, Final Exam, room to be announced** (covers mostly weather and climate)

Class Conflicts: If the exams above conflict with a scheduled class that you have this semester at SDSU, then you need to let me know immediately. You have 2 weeks, until Friday, 5 Sept, to notify me. If you attend another university or are not a SDSU student, then contact me immediately. This (other SDSU classes) is the only exception that I’ll allow in terms of made-up exams, and only by the deadline above.

*If you cannot make it at all to the exams, you may consider dropping this class as soon as possible. If you have work conflicts from which you cannot get out, please drop this class.*

**ARCHIVED LECTURES:**
- **Archived (recorded) lectures:** I will be producing and delivering all lectures using TechSmith Relay, a software program that allows media-rich and high-production-value learning sessions. These Relay sessions will be posted for viewing in Bb on the left panel. You will be able to access the archives in Blackboard under “Archived Lectures”. I will cover the material like I would in an in-person lecture. These are **required** in this course. Unfortunately, there is no interaction between you and me during these sessions, but you can always do that within the class discussions outlined below.

You should be listening to the lectures at least **3 times per week**. Don’t wait till last minute, before a test, to get caught up. This is an upper division science course that requires critical thinking and a fair amount of studying time. Cramming for a test will not work! Furthermore, I do not believe that you will earn a decent grade in this course if you choose not to listen to these lectures.

- **Note Taking:** Taking notes from the archived lectures is critical. Listen carefully to the archived lectures at a steady pace and take copious notes on them. Exam questions come almost 100% straight from those lectures.

- **Slides Posted:** Under “Course Documents” in Bb you’ll find the most important image slides posted for every lecture session throughout the term. This will complement your note-taking.

**BLACKBOARD ASSIGNMENTS** – There will be from 8 to 10 assignments as homework all totaling 100 points. This means that you will have 2 or more assignments between exams. Only 2 of these will be writing assignments (as part of the University-mandated writing requirement), and they’ll be short 1-page question and answer format assignments.

- To this extent, be sure to pay attention to the **Announcements** section in Blackboard, and make sure that you meet the **due dates** for all the online work. There are NO exceptions made for late submittals.

- This homework will include mostly quizzes (5 to 6 quizzes total), but also some short written essays and exercises. To get credit, you must submit assignments electronically exactly as stated in the directions. Please read and follow the instructions stated on each assignment. Quizzes are timed and you must complete them the first time you open them. **Note:** Leaving your quiz unattended will cancel all your work.
- All online quizzes and assignments will be made available in the Assignments folder and will be based on the recorded lectures and chapter readings. It’s your responsibility to check this folder regularly (every week) for homework, not mine to remind you of it! You’ll see some kind of homework assignment on average every 2 weeks.

- Quizzes are a very good representation of what you should expect to see in a test.
- I’ll go over the quizzes with you before respective exams. This way you’ll have important feedback since you may encounter a similar version of a particular quiz question in the upcoming exam.
- All assignments will be open for a limited time frame from 1 to 2 weeks and will range in value from 10 to 15 points each.

Note: You cannot complete or turn in ANY assignment after the due date, or after you lock it up (it will not be available to you online). No late assignments will be accepted at all. There will be no make-up of ANY online assignments, no matter what your reasons are. No special arrangements will be made. No quiz/assignment score will be dropped.

Please also note: Personal computer or printer problems are not valid excuses for missing homework deadlines. Please do NOT take quizzes on your phone or ipad as it may not go through and you’ll lose those points. Take quizzes only on computers.

- No assignments submitted through personal email will be accepted.
  - If you wait till the last minute (meaning: 1 day before it’s due) to submit an assignment and run into problems, there will be nothing that I will do to help you.
  - An exclamation mark (!) next to your assignment means that you DID turn in it, but I haven’t gotten to grading it yet. Note: Grading will take me 2 weeks or more.
  - A “Paper&pencil” symbol on assignments/quizzes means that you haven’t correctly completed and submitted them. This will result in a 0 score.

In ‘View Grades’, in the row called “Total” under “Points Possible”: you’ll see something other than 450 points. Just ignore it. Bb does not compute your grade, I do. Bb just adds all the points earned.

V. CLASS DISCUSSIONS, OFFICE HOURS, DISCUSSION BOARD:
- Class Discussions with Collaborate: This is a web-conferencing tool within Bb that allows live interaction among the logged-in participants (e.g., you can ask questions via a chat box or headset microphone). I will hold optional, not required, weekly online class discussions in order to meet your needs if you have any questions at all about the course policies or course material. There are NO course points associated with being there live for the online discussions. Similarly, you don’t lose any points either if you don’t participate. That said, I strongly encourage you to enter the class discussions. They are in addition to the office hours. I welcome all your questions.

Schedule and location of live discussions: every Wed, 2-3 PM, starting on 3rd week of class. Go to the button Collaborate Sessions in Bb.

Resources for Students: Collaborate Student Guide with Printed Steps
For 24/7 technical support, please contact Blackboard Collaborate support using any of the following:
phone: 877.382.2293 or online support portal

Java - Make sure you have the latest version of Java in your computer. Check in this website to make sure:

More information on http://its.sdsu.edu/blackboard/collaborate/collaborate.html

- In-Person Office Hours: I also strongly encourage you to come to my office hours to get clarification on anything at all. You may also see your exams and understand your scores. This will prepare you for the exams as well as allow you to better understand the concepts.
- Discussion Board: here you can also interact with your classmates, ask and answer questions about anything pertaining to the course. This can be discussion of any quizzes, homework, exams, or anything else. Take
advantage of it as it may help you get answers to your questions and be a better student, especially in an online format. The Discussion Board will be open for the entire semester. Find it on the left panel in Blackboard.

VI. LINKS: The following links may help you with the concepts in this class. (Note that not everything in them pertains to our class):

a) This is the website of a member of our faculty. Click on this link and then click on “eBook” and “Practice Exams” on the left. You can try to answer the practice exam questions that you can recognise from my lectures.
b) This is the website of a similar class from Tulane University. Scroll down to the table of lecture notes for each individual chapter and open the links.
c) This is a free website for a Physical Geology course, whose chapters you may find helpful. Go to “Download Chapters” on the right and click on the one that we may be covering (particularly group III).

VII. WHEN SHOULD YOU EMAIL ME? NOT when you have a content question, that is, about the material in this class. If you do, then I’ll simply request that you attend the Collaborate discussions, come see me in my office hours, or post it in the Discussion Board, so that everyone reads the answer. However, if there is a problem with Bb (e.g., link not working, etc.), or you have any other concern or question, like from what country I am to have this outrageous accent, please do email me through the “Email” menu link or here. Your email subject line must include “Geol 303” and you must provide your name. I will respond as soon as I can, within 24 hours usually (excluding weekends).

- If you think that you are not doing well in class, please ensure that you contact me early on in the semester. I will do my best to help you succeed in this class. It is my goal that you learn the concepts and earn the grade that you’d like. Discussing your grade as late as when the semester ends is not really an option.

VIII. ACADEMIC AND NON-ACADEMIC MISCONDUCT: Plagiarizing, cheating, unauthorized collaboration on course work, stealing examination materials, falsifying records or data, and obstruction or disruption of the educational or administrative process, physical abuse or threat of such an abuse, theft, sexual, religious, or racial harassment, possession of controlled substances or weapons constitute violations relative to Title 5, California Code of Regulations. Violations will be documented in writing with the upper division supervisor, and University disciplinary action will be pursued. This can include failing the course or expulsion from the University.

Note on Plagiarism:
Plagiarism is a form of cheating. Always make sure your work is original. An instructor must be able to gauge what the student has learned. Therefore, copying the work of another person on any assessment whatever that might be, online or offline, whether an essay, test, take-home quiz, or online quiz, is considered cheating. Examples of academic dishonesty include but are not limited to:

Cheating: Copying from another student or using unauthorized aids during any type of assessment.
Plagiarizing: Copying someone else’s work or ideas and misrepresenting them as one’s own (without acknowledgement or permission).
Falsification: Making up fictitious information and presenting it as real or altering records for the purpose of misrepresentation.
Facilitation: Helping another student to cheat, plagiarize, or falsify.

IX. HOW TO AVOID ONLINE QUIZ PROBLEMS (or, how to avoid getting a 0 for your quiz!...). This is modified from the SDSU ITS Blackboard support website. Follow it!

- Use Firefox, Safari, or Chrome as your browser, NOT Explorer. DO NOT use your phone to submit a quiz. DO NOT wait till last minute: Blackboard may not accept your quiz.
- Browser Windows Should NOT Be Resized or Refreshed During a Quiz
If you resize the window, the quiz will stop and no score will be recorded. In the Blackboard Gradebook you will receive an "Incomplete Attempt" message. Do not resize or refresh the browser.

- You May NOT Preview a Quiz
You should not take or "preview" the quiz until you are actually ready to take it. If you "preview" the quiz or begin taking the quiz and then log out, Blackboard will not let you back in. You will receive a "Sorry… you already took this assessment on (date) and (time)" message.

-The “paper&pencil” Symbol
If you have this symbol on your grade sheet for a particular assignment, this means you did not complete it correctly. This type of error will NOT be corrected!

-You may NOT Print a Quiz
If you print a quiz then leave Blackboard without actually answering any questions, the system will consider the quiz taken. Blackboard considers that a quiz has been attempted every time it is entered, regardless if any questions have been answered. You will not be able to re-take the quiz. You can, however, print your scores afterwards.

Finally, I strongly suggest that you use the computer labs in the university, rather than your personal computer or pad. Loss of a grade due to personal computer problems is not fixed or cleared by me. This usually includes slow or intermittent personal internet connections.

X. UNIVERSITY POLICY:
Students with Disabilities: If you are a student with a disability, and believe you will need accommodations for this class, it is your responsibility to contact Student Disability Services at (619) 594-6473 as soon as possible to avoid any delay. Please note that accommodations are not retroactive, and cannot be provided until you have presented your instructor with an accommodation letter from Student Disability Services. Your cooperation is appreciated.
Religious observances: By the end of the second week of classes, students should notify the instructors of planned absences for religious observances. Instructors shall reasonably accommodate students who notify them in advance of planned absences for religious observances. Please notify me by the end of the second week of classes if you plan to be absent for a scheduled test.

Important date:
8 Sept – last day to add.
8 Sept – last day to drop without a “W”. If you stop attending and don’t drop, your grade will be an “F”. If you are taking the course CR/NC, and want to pass the class, you must obtain a C (72%) or higher.
CLASS SCHEDULE
Note that the following lecture schedule is subject to change. You will be notified if need be. You are responsible for noting all changes and adhering to them.

Note: 2 or more Bb assignments or quizzes are due between exams

<table>
<thead>
<tr>
<th>WEEK OF</th>
<th>Readings in Abbott’s textbook, 9Ed</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Aug – Introduction to the course</td>
<td>Chapt. 1</td>
</tr>
<tr>
<td>Characteristics of Natural Disasters</td>
<td></td>
</tr>
<tr>
<td>1 Sept – Population Growth, Energy Sources of the Earth</td>
<td>Chapt. 1, 2</td>
</tr>
<tr>
<td>8 Sept – Introduction to Geology; Earth: Origin, Make-up, Structure</td>
<td>Chapt 2</td>
</tr>
<tr>
<td>15 Sept – Impacts with Space Objects</td>
<td>Chapt. 17</td>
</tr>
<tr>
<td>22 Sept – Mass Extinctions</td>
<td></td>
</tr>
</tbody>
</table>

**Friday, 26 Sept – EXAM 1 (chapters 1, 2, 17, and all lecture notes) – red Scantron Parscore F289 (covers Geology intro topics, population, impacts, extinctions)**

| 29 Sept – Plate Tectonics: Plate boundaries | Chapt. 2 |
| 6 Oct – Tectonics and Earthquakes | Chapt. 3, 4, 5 |
| 13 Oct – Tectonics and Tsunami | Chapt. 8 |
| 20 Oct – Historical Earthquakes | Chapt. 3, 4, 5 |

**Friday – 24 Oct – EXAM 2 (chapters 2, 3, 4, 5, 8, and all lecture notes) – red Scantron F289 (covers plate tectonics, earthquakes, tsunami)**

| 27 Oct – Tectonics and Volcanoes | Chapt. 6, 7 |
| 3 Nov – Historical Volcanoes | Chapt. 6, 7 |
| 10 Nov – Mass Wasting (Landslides) | Chapt. 15 |
| 17 Nov – Historical Mass Wasting | Chapt. 15 |

**Friday – 21 Nov – EXAM 3 (chapters 6, 7, 15, and all lecture notes) – red Scantron F289 (covers volcanoes, mass wasting)**

| 24 Nov – Weather Principles, Climate Change | Chapt. 9, 12 |
| 27–28 Nov: Thanksgiving | |
| 1 Dec – Severe Weather: Hurricanes, Coastal Erosion | Chapt. 11, 16 |
| 8 Dec – Severe Weather: Thunderstorms, Lightning, Tornadoes, Floods | Chapt. 10, 13 |

Last day of classes: Wed, 10 Dec.

**FINAL EXAM: Wednesday, 17 Dec, 8-10AM, Scantron F289 (covers mostly weather, severe weather, climate change)**
The Final is cumulative but a very large portion of it will be the last section of semester – Weather/Climate. These are Chapters 9, 10, 11, 12, 13, 16. There will be 100 questions. The final is a significant portion of your grade.

**NOTE:** The final exam schedule is set by the University. The final cannot be re-scheduled! The final cannot be made up! The final cannot be dropped! If you have travel plans, see to it that they take place after your final. There are no exceptions made.