

*University College Roosevelt*

Syllabus  
Introduction Earth Science  
SCIEART101, Fall 2019



Instructors: dr. R.D. van der Weijden and dr. J. Resovsky  
Field instructors: MSc. T. Zoutewelle, dr. R.D. van der Weijden



**Classroom no:** Franklin 14

**Class:** Monday 16:00-18:00  
Tuesday 11:00-13:00

**Other class times:** Mandatory fieldtrip **October 11 and 12**  
Beach excursion **September 9**

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**Office hours:** Weekdays on appointment (Resovsky) Mo-Tues (Weijden)

## I. Course and track information

- a. Prerequisites for this course: The introductory course in Earth Science is open to all students. However, high school level chemistry, physics and math are highly recommended. You are **required** to participate in a two-day fieldtrip during the semester [**Friday/Saturday October 11 and 12**]. You must be physically fit to do so, or agree with the instructors in the first week of the semester on an alternative project. The fieldtrip involves a few uphill walks of half an hour and some stairclimbing. The contribution for this fieldtrip is about 90 Euro, a more accurate estimate will be based on the number of students.
- b. The SCIEART101 course is in general a pre-requisite preparation course for 201SCIEART, 202SCIEART and 301SCIEART. This pre-requisite can be lifted if the student has taken relevant supporting courses and with the condition to be willing to study additional relevant information. The full track is currently being revised, a full track document will be available later this semester after BoS has OK-ed.

## II. General course description

This course introduces you to the broad field of Earth Science. Earth Science in general and in all its sub disciplines is a very exciting and relevant field. You will never look at mountains, rivers and oceans in the same way after taking this course. The number of jobs in this field is increasing, because water, mineral and fossil fuel resources are decreasing. At the same time, environmental problems are increasing: water pollution, plastic soup, global warming and the seemingly increased frequency of earth quakes, tsunamis and hurricanes. You will discover in this course that these phenomena observed on (surface) and in (deep) the earth, are linked to processes of *our Earth*, that contrary to many other planets, *is alive!*

While studying the common geological phenomena, we will browse through major sub disciplines such as geohydrology, sedimentology, structural geology, mineralogy, petrology, earth history, geophysics, climatology, environmental geology and resource management. Each one of these sub disciplines could easily fill a semester. In universities these sub disciplines are usually taught by several professors that have specialized in one of the sub-disciplines. This course will be taught by professors partly based on the main division in Surface Earth and Deep Earth. It should be realized that deep earth processes drive surface earth processes, and to some degree that is true for the reverse.

Since geology is a typical outdoor science, you will not have a complete introduction without outdoor studies. The course will include outdoor studies via a Geowalk in town, and a field assignment in the Ardennes. If time and weather allows also a beach excursion to study sedimentation features. In order to prepare you for the field assignment, apart from the regular classes and lectures, there will be practicals for mineral and rock determination and a geological mapping/profiling class. During the Ardennes field study we will collect structural data and rocks (maybe fossils). You will see that many sub-disciplines are demonstrated during this fieldtrip. You will collect data in the field and process these data at home and write a report which will include a geological cross-section and stratigraphic column of the Ardennes area we will investigate.

Students will see that most observations (including seismic data) concerning the deep earth are made at and above the surface, that the features of the surface are shaped by deep earth processes, and that certain components of surface processes penetrate the deep interior. Such interactions are exemplified by geochemical analyses of surface rocks that reveal the composition and flow history of the mantle, by heat flow from the core that is the source of volcanic island chains and rift valleys, and by large weather systems that initiate planet-wide seismic vibrations.

### **III. Study Load**

This course is a four credit course (equivalent to 7.5 ECTS). The students will be compensated for fieldwork and excursion learning by reducing the number of in-class lecture hours. This will also help students with processing time for the field- and excursion data.

### **IV. Supporting course materials**

The main book used in this course is “Understanding Earth” by F.Press, R. Siever, J. Grotzinger, and T.H. Jordan. You can buy it via the Drukkery (ISBN: 0-7167-9617-1). More information for students is available on [www.whfreeman.com/understandingearth](http://www.whfreeman.com/understandingearth). It is possible for students to subscribe to an online electronic version of this textbook.

Most chapters of the textbook are closely related to several other chapters and to the subject matter of two or three different classroom meetings during this course. For this reason, it is impractical to assign particular chapters to be read each week. Students are encouraged to read the whole text as quickly as possible, and should complete their first reading of all chapters before the end of week 8 at the latest. **The course schedule below**

includes a recommended weekly reading plan that matches the lecture schedule as closely as possible (but not perfectly!), without demanding more than 4 chapters of reading per week.

For more information on the internet:

- [http://mineral.galleries.com/minerals/by\\_class.htm](http://mineral.galleries.com/minerals/by_class.htm)
- <http://education.usgs.gov/common/undergraduate.htm>,
- <http://pubs.usgs.gov/gip/dynamic/dynamic.html>
- <http://www.see.leeds.ac.uk/structure/dynamicearth/index.htm>

Other reference books are in the Zeeuwse Bibliotheek (library books that should REMAIN in the library for use by all students):

- **Cambridge Encyclopedia of the Earth Sciences**, ed. David Smith, Sceptre Books Ltd., 1981
- **Origins**, Ron Redfern, 2001
- **The Oxford Companion to The Earth**, ed. Hancock and Skinner, Oxford Univ. Press, 2000 (also via Oxford Premium in UU library “Alphabet List of Search Engines!”)
- **Oxford Dictionary of Earth Sciences**, ed. Allaby and Allaby, Oxford Univ. Press, 1999 (also in Oxford Premium)
- **Smithsonian Earth**, ed. Luhr, DK Pub. Inc., 2005

## V. Organization of the course

### a) Activities

The learning activities for this course include data collection, observing, presenting, literature research, summarizing, reviewing, reporting and reading. For help or comments for/on each of these learning activities or feedback on these learning activities you can contact the instructor for an appointment.

Your instructor (and for presentations, your peers as well) will provide feedback, either in the form of a grade (test) or a commented grade (presentations, reporting). For the field report and cross section construction, you will have a chance to receive (free) feedback prior to handing in the report for a grade.

### b) Communication

At UCR, instructors are available to help you with course materials or with IRP’s or Senior Projects in their field. *Both instructors have IRP topics available, or you can suggest your own topic.* You can ask for help by sending an email to dr Resovsky or dr van der Weijden when you have a short question, do not use Moodle email but the UCR email. You can also schedule an appointment with the professors this way. Emails sent after 18:00 will usually be dealt with the next day, and (generally) not dealt with on weekends. The preference for communication regarding more elaborate questions is in person during office hours. These hours will be announced during the first week, they are different each semester as teaching and research schedules of instructors change. *General emails to inform the class will be sent via Moodle. Emails specifically meant for you only are sent by: “[instructorname](mailto:instructorname@ucr.nl)”@ucr.nl.*

### c) Presence/Extensions/Makeups

Attending class is mandatory and your presence is highly valued because of your contribution to the class. In case you must miss a class due to, for instance, illness, notify the instructors of the reason for your absence. In case of excursions in other courses, ask SCIEART101 instructors for permission to skip a class. There is an option to make up for missed assignments and other assessments (quizzes) during the review week, but you must have a legitimate reason to be allowed to make use of this option. Make-ups cannot include missing the field assignment in the Ardennes Belgium.

For some assignments, NO extensions are possible; for others, LATENESS grade penalties apply automatically and without exception; for still others, extensions will be granted, but the student will forfeit the right to related consultations with the instructors. These terms are specified in this document OR on Moodle where assignment information is posted OR in class at the time the assignment is described. It is your responsibility to check all of these and to be aware of the submission rules for each assignment.

## **VI. Course objectives and student learning outcomes**

General Objectives;

- 1) In this course you will come to appreciate and explore the vast field of Earth Science and obtain a basic understanding of the Earth's major processes that lead to certain phenomena in and on the Earth.
- 2) You will come to understand the relationship between the various sub-disciplines and practice them on a basic level.
- 3) You will learn how to observe carefully, interpret these observations responsibly, and write a scientific field report.
- 4) You will get a deeper understanding of an assigned topic by gathering information from the internet, books and articles.

Surface Earth objectives: (Dr. van der Weijden)

Learn about the conditions and processes that are responsible for phenomena on the earth's surface and the relationship between these phenomena and processes. Make careful observations regarding rocks, minerals, and rock formation structures using geological tools in order to be able to reconstruct the geological history of a certain region and predict future processes.

These objectives are achieved by lectures and **practicals** that address the aspects (rock/mineral knowledge, rock structures) one needs to know in order to be able to carry out fieldwork. In class, some students will be assigned to make a **summary** (2) of the class session. In the field, the students will have the opportunity to use the acquired knowledge and tools to make a first **geological profile and stratigraphic column** and explain the geological history in a **final field report**. Additional deeper understanding of certain subjects will be tested in **1 quiz and 1 exam**. The quizzes and exam lean heavily on the lectures and somewhat on related chapters in the book: "Understanding Earth" by Siever and Grotzinger. Furthermore, a **portfolio** of summaries, excursion notes/reports,

geological walk and in class structural geology assignments will be compiled by the student.

Deep Earth objectives: (Dr. Resovsky)

The goal of this part of the course is for the students to acquire familiarity with the forces and processes that shape the earth, and the means by which these processes are discovered and described. This familiarity will be strong enough to allow students to present clear and accurate explanations to a general academic audience. It will give students that follow the earth science track the context needed to understand in more detail physical processes in higher level earth science classes. Other students will gain an appreciation for scientific methods which should improve their ability to assess the relevance of earth science knowledge to other disciplines.

These goals are to be achieved by assigning a large *list of questions* (about 400), the answers to which students must obtain by interviewing the instructor during 2 office “draft” / “private” interview meetings, and information from sources recommended by the instructor before and during those interviews. Each student will use interview notes and source information, to create **well illustrated (i.e. appropriate and informative figures) and fully transcribed (i.e. everything you say must also be typed into your submitted presentation) *classroom presentations*** of the answers corresponding to one geophysics topic. This may seem to be an odd way for expert information to be provided by the instructor, but interviews as preparation for live or video presentations of science news is common practice for media professionals as well as in graduate student seminars for scientists.

The Moodle library of presentations and transcripts submitted by students are intended to be one of the 4 primary resources used by the class as a whole in preparing **for the multiple choice Deep Earth exam** at the end of the semester. The other three resources are: the textbook; notes of clarifying questions and answers (from the class and instructor) taken by each student during each presentation **for the mandatory presentation *review* submissions due each week**; and the Moodle/PoodLL library of audio recordings of all office interviews that will be recorded and uploaded by the instructor. Because presentation figures and transcripts and peer reviews are meant to be study material, *presentations+transcripts must be submitted no later than the day of the corresponding presentation, and presentation reviews + peer grades must be submitted within a week of the corresponding presentation*

**Finally, please note** that although there often is no specific textbook reading assigned as preparation for Deep Earth lectures, there are relevant answers to questions for *each* lecture topic *scattered throughout* the textbook, “Understanding Earth.” This is because the highly interdisciplinary nature of the geosciences makes it nearly impossible to achieve separate topics into chapters or to arrange them in a linear sequence. *Students therefore are strongly encouraged to read through the entire textbook TWICE during the course, once in each half.*

## VI.

### a) Assessment Criteria

#### Surface Earth

- i. The **quiz** will consist of both multiple choice and open questions. For the rock and mineral quizzes (if the number of students allows this), groups of students will be given several rock or mineral sets to identify and describe. The written test is 5% and the mineral/rock determination test is 3%. The latter may be combined with rock determination test. You will have to know 30 minerals including mineral class, and about 20 rocks (including rock type). If you plan to follow the entire Earth Science track you are encouraged to memorize more minerals and rock types.
- ii. For the Surface Earth exam all previous theory dealt with in class, and somewhat leaning on book chapters will be assessed. Some questions may also be related to the outdoors studies. This exam counts as 12% of your final grade.
- iii. As a practice for the final field report, **structural geology assignments** are prepared both in and outside class. The assignments will be handed out to you. The quality will determine your grades on these assignments which will count towards the grade of your **portfolio**. (hint: Use color pencils!).
- iv. **Beach Report (if applicable):** We will analyze sands regarding size, roundedness and sorting, sedimentation patterns and coastal currents and wavelengths, periods. You are to report on all these as part of your portfolio, this can be done as a team of 4/5. The location is Breezand. Dates for these short (3-4 hour) excursions will be communicated. Reports are part of your **portfolio**.
- v. **Rock Walk:** Very popular these days are the rock walks in towns. We may not have many rock types in The Netherlands ourselves, but we do use them in construction. You will identify the rock category, describe your observations and, if possible, add the specific rock type. Reports are part of your **portfolio**.
- vi. **Field assignment:** In the Ardennes you will make observations and measurements. You are encouraged to voice observations and make measurements besides the required ones mentioned in the excursion guide. *Your field book, edited to form your draft of the field report* will reflect your efforts in these areas. Add this to your **portfolio** (or a copy). Safety and conduct are expected to adhere to guidelines given in the excursion



guide. You will be given a grade for all these aspects that will count 2% towards your final grade.

vii. The **field report** needs to adhere to the scientific format (abstract, introduction, methods, materials, analysis of geological history, conclusion, references). Most importantly, you need to construct a cross section with the data obtained in the field as well as a stratigraphic column. You will be encouraged to consult the instructor, who will provide free feedback. Furthermore, fieldreport help is planned late October in a workshop, potentially a Wednesday afternoon. Another important part of your report is the analysis of tectonics for the region, which can be part of the geological history section in the report. Your final grade will be based on the depth and accuracy of the report and on what you did with the feedback of the instructor. Note: some parts are mandatorily hardcopy.

viii. **Surface Earth Lecture Summaries.** A schedule for students that are to make a summary for a specific class will be provided on Moodle. The summary should be no more than one and a half page. The summary should be in Word (NO PDF) and will be made available for your colleagues the week after. No make-ups possible. Use email [r.vanderweijden@ucr.nl](mailto:r.vanderweijden@ucr.nl) to submit your summary in the week after the class you summarized. Your summary will be part of your **portfolio**. Because one cannot always count on one's peers to provide their assigned summaries for study purposes, and because extra credit can be earned by providing summaries when the assigned student fails to do so, it is wise for each student to take notes and write their own summaries of each lecture.

## Deep Earth

During the first two weeks (to be completed once the registration drop/add period has ended), each student will be assigned an interview topic (designated with letters A-Z) and assigned a classroom interview date. The complete list of topics and answers will be uploaded to Moodle in Week 1.

- i. **Office Interview Preparation:** Each student must attend two 60 minute 'office interview meetings' (in groups of two), as preparation for the classroom presentations. **Before** each office meeting the interviewer must submit (**4% for 1<sup>st</sup>, 6% for 2<sup>nd</sup> = 12% of course grade**) to Moodle a preparation document including: initial question answers from the textbook other references, and (for the 2<sup>nd</sup> interview) notes of the previous interview, lists of clarifying follow-up questions to each original question, and, when applicable, and drafts of the classroom presentation figures and transcript.
- ii. **Classroom Presentation:** 2 or 3 student presentations of question answers for related topics will be scheduled during each of the Deep Earth class meetings. The clarity grades and part of the completeness grade for these (totaling 3% of course grade) will come from the average scores for these components assigned by the other students in the class, as part of their required submission of peer evaluations for each presentation. The remaining completeness grade (about 4% of the course grade) and the



correctness grade (about 4% of the course grade) for the presentations will be assigned by the instructor. There will be time for additional follow-up questions from the rest of the class, and the instructor will fill in any important information gaps not covered by the formal interviews. Answers to questions from the class and other information added by the instructor should be recorded by each student present, as a required component of the summaries of each presentation to be submitted within a week by each student of the audience.

- iii. **The peer presentation reviews** are assessed (**8% of course**) according to their uniqueness, *completeness* (*justified lists of well and poorly addressed questions, good and poor figures, most interesting things learned, suggestion for relevant and useful follow-up questions not asked in class, examples of one's own personal notes of information in the interview that was not covered by the textbook, and of personal notes of extra information provided through answers to in-class questions and extra comments by the instructor*), logic, fairness, submission timeliness, and actual attendance of the presentations being reviewed. The review of each presentations must be submitted within 1 week of the in-class presentation. These may be uploaded to moodle as individual documents for each presentation, or in documents containing the summaries of the several presentations of given class meeting or class week. In case of absence from an in-class interview, reviews should be based the presentation and transcript documents each presenter is required to upload to Moodle on the day of their presentation. Bonus points are available for using one's own in-class notes to correct errors and omissions in the presentations of your peers. Please note: most of the work on the presentation summaries/reviews should take place during the in-class presentations themselves. If you attend all class meetings and take good notes, editing, retyping and submitting the summary/review documents should require only 10-20 minutes per presentation.
- iv. **The multiple choice Deep Earth exam** in the final week will have questions (approximately 40) created by reformatting the original list of Deep Earth presentation questions and the best follow-up questions. The exams will be based on the book "Understanding Earth" and the in-class interviews. Interview transcripts are intended as a study aid, but not as a primary source for answers! Each individual student should compile their own written notes of each interview and their own summaries of textbook answers to interview questions. Some correct answers may be provided only in the textbook or only via the actual spoken answers of the instructor during the interview.

**The Deep Earth exam is on Tuesday 10<sup>th</sup> of December. The exam accounts for 17% of your course grade.**

One week before the date of the exam, a shorter, final list of 150-200 possible questions will be provided to all students.

***Additional Note on Deadlines: If you are behind schedule in the Deep Earth interview transcript submission, contact the instructor to find out if you can hand it in later***

*without penalty. If you do not have a substantial reason for handing in an assignment late, you lose an immediate 10% for lateness and an additional 5% for each subsequent 12 hours of lateness. A 10% penalty implies that a grade of 80 becomes a grade of  $0.90 \times 80 = 72$ . Students with transcript submission deadlines scheduled on the same day as Surface Earth deadlines are eligible for a half-week extension of one of the two competing deadlines.*

## VII. Course Schedule

### VI. Assessment information

**a) Assessment Categories, weights, percentages and due dates (which may be subject to change if that is needed)**

<b>Assignment</b>		<b>Grade %</b>	<b>DUE</b>
<b>a) Portfolio hardcopy</b>		<b>2+6+5+2=15%</b>	<b>Mon Nov 4<sup>th</sup></b>
	<i>i Summaries (2)</i>	2%	
	<i>ii Beach Report/Rock Walk</i>	6%	
	<i>iii Structural Geology Assignments</i>	5%	
	<i>iv Personal Field Notes</i>	2%	
<b>b) Surface Earth Quizzes</b>		<b>12+8=20%</b>	
	<i>i Mid-term exam (proctored by dr Joe)</i>	12%	<b>Tues Oct 8<sup>th</sup></b>
	<i>ii Mineral and rock determination and quiz</i>	8%	<b>Mon Sept 23<sup>rd</sup></b>
<b>c) Field Report hardcopy</b>		<b>2+8+2+3=15%</b>	<b>Mon Nov 4<sup>th</sup></b> <b>*) Optionally postponed Nov 11<sup>th</sup></b>
<b>*) optional report postponement available <u>only</u> to Deep Earth presenters 25-27 and 1-6</b>			
	<i>i Field performance</i>	2%	
	<i>ii Cross-section, map with measurements and rock boundaries and stratigraphic column</i>	8%	
	<i>iii Tectonic description</i>	2%	
	<i>iv Other parts (intro, analysis, interpretation)</i>	3%	
<b>d) Deep Earth</b>		<b>10+12+3+8</b>	

<b>Presentations</b>		<b>= 33%</b>	
	<i>i Preparation for TWO office interviews</i>	4 (1 <sup>st</sup> ) +6 (2 <sup>nd</sup> ) = 10%	Before each interview
	<i>ii Correctness+completeness of presentation+transcript</i>	12%	Day of presentation
	<i>iii Clarity/completeness grade of oral present given by peers</i>	3%	1 wk after pres.
	<i>iv. Quality of presentation reviews by each student for each presentation.</i>	8%	Within 1 wk after each presentation
<b>e) Deep Earth Exam</b>		<b>17%</b>	<b>Tues Dec 10</b>

## VII. Course Schedule

Day/Wk	101SCIEART	Preparation/Submissions (RvdW /JSR)	What is due (RvdW /JSR)
Mon Aug 26 Week 1	-Introduction -The scientific method. Earths composition	-Read Chapter 1 Understanding Earth -Read uploaded Article on the Scientific Method	-Obtain a copy of Understanding Earth of Grotzinger, or order it a.s.a.p.
Tues Aug 27 Week 1	1 <sup>st</sup> hour Minerals 2 <sup>nd</sup> hour Deep Earth Intro	-Study Chapter 3 Understanding Earth	-Submit DeepEarth topic preference lists before end of Wednesday.
Mon Sept 2 Week 2	-Minerals -Mineral determination and filling out list	-Read upload Mineral determination  -Skim text chapters 4-6	- Summaries of last week -Check DeepEarth upload of the table of Presentation letter-number topic assignment and schedule for all students. Put your personal schedule in your agenda!
Tues Sept 3 Week 2	-Minerals and applications - Sand and beaches	- Study Chapter 16, 18, 20 - Read Beach excursion materials (upload)	
Mon Sept 9 Week 3	-Beach excursion	- Prepare with your team on tasks for beach excursion	- Prepare for beach excursion, excursion guide, clothes, towel, ticket for bus, notebook etc. - Summaries of last week
Tues Sept 10 Week 3	-Sand analysis -Rocks	-Study Chapters 4-6 -Skim text chapters 7-9	
Mon Sept 16 Week 4	-Rocks, formation and determination	-Read rock determination upload	- Summaries of last week
Tues Sept 17 Week 4	-Structural Geology	-Study Chapter 7  -Skim text chapters 10-12	- Bring color pencils, ruler, extra paper

Mon Sept 23 Week 5	-Quiz, rocks and minerals and determination	-Study for quiz  -Skim text chapters 13-15	- Bring mineral and rock determination guide, with your notes! - Summaries of last week
Tues Sept 24 Week 5	-Structural geology	-Prepare structural geology assignments	-Bring colored pencils, ruler, assignment Sept 17 <sup>th</sup>
Mon Sep 30 Week 6	DeepEarth Presents <b>25,26,27</b> [Dr Joe]	-Rock walk, this week by yourself or as a group -Prepare for midterm Oct 8 <sup>th</sup> - If necessary, catch up on first reading of textbook this week.	- Summaries of last week <b>1<sup>st</sup> interview prep upload for presents 10-12 recommended this week.</b>
Tues Oct 1 Week 6	-Class only for optional 1 <sup>st</sup> interviews for DeepEarth presents 10-12 (1100-1300)	-Rock walk, this week by yourself or as a group. Use uploaded guide -Prepare for midterm Oct 8 <sup>th</sup> -Skim text chapters 16-18	-Ideally, most of your portfolio is ready -Prepare for excursion (shoes, sleeping bag etc.)
Mon Oct 7 Week 7	- Stratigraphy, index fossils and minerals -Fieldtrip preparation	-Study Chapter 8 and 10 -Decide on task-teams for the fieldtrip (some tasks may need to be done on Wednesday-Thursday)  -Prepare for midterm Oct 8 <sup>th</sup>	- Reminder: Deep Earth Office interview signup/prep 10-12 ASAP
Tues Oct 8 Week 7	Midterm Exam Surface Earth (proctored by JSR)	-Ready for midterm Oct 8 <sup>th</sup>  -Skim text chapters 19-end	Pres 1-6 Reviews due Tues 8 October
Thurs Oct 10 Week 7	SHOPPING WITH DR JOE	GATHERING OF Field Trip MATERIALS	- Summaries of this week
<b>Fri Oct 12</b>	<b>Field trip Departure 9:00 AM</b>	Info for preparation will have been provided.	
<b>Sat Oct 13</b>	<b>Field trip Return ~ 22:00 PM</b>	Field performance and spirit	Start 1 <sup>st</sup> draft field report during the break
Mon Oct 21 Week 8	Field report and portfolio coaching	-Work on field reports/cross section/stratigraphic column  -Read Chapters 1-2 this week	- Reminder: Deep Earth Office interview signup/prep 10-12 ASAP
Tues Oct 22	Field report and portfolio coaching	Work on field reports/cross section/stratigraphic column	
Mon Oct 28 Week 9	Field report and portfolio coaching	-Work on field reports/cross section/stratigraphic column -Read chapters 3-4 this week	<b>1<sup>st</sup> interview prep upload for presents 10-12 due no later than this week.</b>
Tues Oct 29 Week 9	-Class only for optional 1 <sup>st</sup> / 2 <sup>nd</sup> interviews for	-Work on field reports/cross section/stratigraphic column <b>-1<sup>st</sup> interviews for DeepEarth</b>	Reminder: Deep Earth Office interview signup/prep ASAP

	DeepEarth presents 10-12 (1100-1300)	presents 10-12 must take place no later than this week	
Mon Nov 4 Week 10	DeepEarth Presents 1,2,3 [Dr Joe]	-Read chapters 5-9 this week 2 <sup>nd</sup> interviews for DeepEarth presents 10-12 must take place no later than this week	-Pres 25-27 Reviews due Mon/Tues -Field report + Portfolio Due Mon, 4 Nov; no more assessments for Surface Earth
Tues Nov 5 Week 10	DeepEarth Presents 4,5,6 [Dr Joe]	1 <sup>st</sup> interviews for DeepEarth presents 13-18 must take place no later than this week	2 <sup>nd</sup> interview prep upload for presents 10-12 and 1 <sup>st</sup> interview prep upload for presents 13-18 due no later than this week.
Mon Nov 11 Week 11	DeepEarth Presents 7,8,9 [Dr Joe]	-Read chapters 10-13 this week  -2 <sup>nd</sup> interviews for DeepEarth presents 13-18 must take place no later than this week	-Pres 1-6 Reviews due Mon/Tues  -Optional late Field report due Wed, 13 Nov, 6pm
Tues Nov 12 Week 11	DeepEarth Presents 10,11,12 [DrJoe/students]	-1 <sup>st</sup> interviews for DeepEarth presents 19-24 must take place no later than this week	2 <sup>nd</sup> interview prep upload for presents 13-18 and 1 <sup>st</sup> interview prep upload for presents 19-24 due no later than this week.
Mon Nov 18 Week 12	DeepEarth Presents 13,14,15 [students]	-Read chapters 14-18 this week  -2 <sup>nd</sup> interviews for DeepEarth presents 19-24 must take place no later than this week	Pres 7-12 Reviews due Mon/Tues
Tues Nov 19 Week 12	DeepEarth Presents 16,17,18 [students]	-1 <sup>st</sup> interviews for any postponed presentations must take place no later than this week	2 <sup>nd</sup> interview prep upload for presents 19-24 and 1 <sup>st</sup> interview prep upload for postponed presents due no later than this week.
Mon Nov 25 Week 13	DeepEarth Presents 19,20,21 [students]	-Read chapters 19-end this week  -2 <sup>nd</sup> interviews for any postponed presentations must take place no later than this week	Pres 13-18 Peer Reviews due Mon/Tues
Tues Nov 26 Week 13	DeepEarth Presents 22,23,24 [students]		-2 <sup>nd</sup> interview prep upload for presents for postponed presents due no later than this week.
Mon Dec 2 Week 14	Postponed Presentations or No Class	Study for Exam; Exam review consultations available by appointment or via email Q/A.	Pres 18-24 Peer Reviews due Mon/Tues
Tues Dec 3	Mandatory CourseEval and	Study for Exam; Exam review consultations available by	

Week 14	Exam Review	appointment	
Mon Dec 9 Week 14	<u>No Class</u> <u>Monday, 6pm, is the</u> <u>FINAL deadline for</u> <u>any late assignments</u> <u>eligible for partial</u> <u>credit.</u>	Study for Exam; Exam review consultations available by appointment	<u>Peer Reviews of any Dec 3 presentations due Mon.</u>
Tues Dec 10 Week 15	<b>Deep Earth Final exam</b>	Study for Exam; Exam review consultations available by appointment	