Proposal Form For Addition And Revision Of Courses

1. Proposing College / School: College of Sciences and Mathematics
   Department: Geology and Geography (Concepts of Science program)

2. Course Prefix and Number: SCN 1013
   3. Effective Term: fall 2012

4. Course Title: Concepts of Science
   Abbreviated Title (30 characters or less): Concepts of Science

5. Requested Action:
   - Renumber a Course
   - Add a Course
   - Revise a Course
   Current Course Number:
   Proposed Course Number: 1013
   Type of Revision:

6. Course Credit:
   Contact/Group Hours Schedule Type (e.g.: Lab, Lecture, Practicum, Directed Study)
   Weekly or Per Term? Credit Hours Anticipated Enrollment
   Maximum Hours (Repeatability): 4
   3 Lecture (on line) weekly 3 50
   1 Laboratory (on line) weekly 1 50
   Total Credit Hours: 4

7. Grading Type:
   - Regular (ABCDF)
   - Satisfactory/Unsatisfactory (S/U)
   - Audit

8. Prerequisites/Corequisites:
   Use "P:" to indicate a prerequisite, "C:" to indicate a corequisite, and "P/C:" to indicate a prerequisite with concurrency.
   None

9. Restrictions: List specific restriction in space above.
   - College
   - Major
   - Standing
   - Degree

10. Course Description:
    (20 Words or Less; exactly as it should appear in the Bulletin)
    See attached.

11. May Count Either: SCN 1013 or
    (Indicate if this particular course cannot be counted for credit in addition to another)
    Program Type
    Program Title
    Requirement or Elective?
    (e.g.: minor, major, etc.)
    (e.g.: MS in Chemistry, Performance Option, Minor in Art)
    (required or optional?)
    various

12. Affected Program(s):
    (Respond "N/A" if not included in any program; attach memorandum if more space is required)

13. Overlapping or Duplication of Other Units' Offerings:
    (If course is included in any other degree program, is used as an elective frequently by other unit(s), or is in an area similar to that covered by another college/school, attach correspondence with relevant unit)
    - Applicable
    - Not Applicable
14. Justification:

This proposal is for an on-line course, which will be very similar in content and objectives to the existing classroom course, SCMH 1010, Concepts of Science. SCMH 1010 is a widely taken core science class that enrolls about 1000 students per year at this time. Typically, we have a few dozen students who are on a wait list for the classroom Concepts course. Given the increasing enrollment at the freshman level and the lack of options for expanding classroom course availability by this program, an on-line (distance learning) version is a good option.

In keeping with AU's current strategic plan involving more distance learning opportunities, specifically, the development of more high-demand undergraduate courses for on-line delivery, this new course is particularly helpful. SCMH 1013 will be the first core science course to be available on-line at AU.

Because AU is moving to Canvas as the standard delivery system for course materials, this course will be delivered only in Canvas. The instructor for this course is familiar with Canvas.

15. Resources:

Existing AU Canvas will be used to deliver the class.

16. Student Learning Outcomes:

These are essentially the same as previously approved SCMH 1010.

In accord with university student learning objectives, the student in this course will understand and appreciate the methods and issues of science and technology. To this end, the student in this course will: (a) learn the philosophical and historical foundations of modern science; (b) better understand the scientific method in a variety of situations and demonstrate an ability to interpret the results of experiments as a way of better understanding natural phenomena in several disciplines of science, including chemistry, physics, astronomy, geology, ecology, and biology; (c) understand major scientific issues facing modern society, including the impact of human activity on our planet; and (d) acquire detailed knowledge of basic principles, laws, and theories of modern science. This will be achieved in an electronic format for lecture and laboratory.

17. Course Content Outline:

This course, including both lecture and laboratory, will be delivered on line. For more information, please see example syllabus draft, attached. Lecture schedule: The following is the proposed lecture schedule, which is subject to change(s) sent by e-mail or posted in Canvas. If you have questions, ask me. Reading assignments in the textbook are given in this schedule (in parentheses). As discussed above, you are expected to read ahead in the textbook.

Note to syllabus reviewers: The week numbers will be adjusted to the specific calendar of the term(s) when this course is offered.

Approximate week Notebook topic and chapter reading(s) in textbook
Week 1 Introduction to the class (syllabus); Science, a way of knowing (Ch. 1)
Week 2 The ordered universe (Ch. 2)
Week 3 Energy (Ch. 3)
Week 4 Heat and the second law of thermodynamics (Ch. 4)
Week 5  Electricity and magnetism (Ch. 5)
Week 6  Waves and electromagnetic radiation (Ch. 6)
Week 7  The Atom (Ch. 8); EXAM 1 on Wednesday, insert the MONTH/DAY/TIME
Week 8  Atoms in combination – the chemical bond (Ch. 10)
Week 9  The nucleus of the atom (Ch. 12)
Week 10  The stars (Ch. 14)
Week 11  Earth and other planets (Ch. 16)
Week 12  Plate tectonics (Ch. 17); EXAM 2 on Wednesday, insert the MONTH/DAY/TIME
Week 13  Cycles of the Earth (Ch. 18)
Week 14  Ecology, ecosystems, and the environment (Ch. 19)
Week 15  Strategies of life (Ch. 20); Evolution (Ch. 25); Final exam on insert the MONTH/DAY/TIME

Laboratory schedule: The following is the proposed laboratory schedule, which is subject to change(s) sent by e-mail or posted in Canvas. If you have questions, ask me.

Approximate week Notebook topic and chapter reading(s) in textbook
Week 1  NONE
Week 2  Lab 1 - Journal article reading
Week 3  Lab 2 - Principles of energy and work
Week 4  Lab 3 - Kinetic energy (asteroid impact)
Week 5  Lab 4 - Chemical elements
Week 6  Lab 5 - Flame spectroscopy
Week 7  Week off due to exam during the lab session times in the exam center
Week 8  Lab 6 - Fusion and fission
Week 9  Lab 7 - Atomic dating using isotopes
Week 10  Lab 8 - Astronomy
Week 11  Lab 9 - Mars’ planetary features
Week 12  Week off due to exam during the lab session times in the exam center
Week 13  Lab 10 - Plate tectonics
Week 14  Lab 11 - Ecology and ecosystems
Week 15  Lab 12 - Cells as a source of energy

Provide a comprehensive, week-by-week breakdown of course content, including assignment due dates

18. Assignments / Projects:

All of this is done in Canvas. Students must submit weekly lecture posts and cross-posts and submit weekly laboratory assignments for the pre-discussion phase of lab and students must all log in for synchronous laboratory discussion groups (i.e., at one established time for each lab group of 15 students each). Students will come to a proctored testing center, such as Auburn University Biggin Testing Center, to take seated exams on two occasions during the term and at final exam time. For more information, see the example syllabus attached. Examinations are all multiple-choice format, and the exams are written by the instructor.

(List all quizzes, projects, reports, activities and other components of the course grade -- including a brief description of each assignment that clarifies its contribution to the course's learning objectives)

19. Rubric and Grading Scale:

Grading scheme: Grading on (a) lecture exams and (b) assignment of the whole course grade is based upon a 15-point grading scheme, where an A is 100 to 85%, a B is 84 to 70%, a C is 69 to 55%, a D is 54 to 40%, and an F is below 40% (or failure to attend or pass laboratory or for gross honesty or conduct violation). This grading scheme does NOT pertain to laboratory classes, which have a different point scale (see Important note #2 below). Important note #1: This grading scale for the whole course has lulled many a student into a false sense of security and left them struggling to pass when they thought it would be easy. Too late, they discovered that the exams are challenging and require in-depth knowledge and mastery of the material only gained by many hours of study.
Important note #2: The grading scale in the laboratory portion of this class is likely to be different (probably a 10-point scale; see the separate laboratory syllabus for your section of laboratory). This difference may be particularly important to note when considering the grade needed to pass laboratory, which will be higher than the 40% needed to pass this class as a whole (i.e., 60%). As noted elsewhere, you must pass laboratory (i.e., you must pass according to the laboratory grading scale, a minimum 60%), in order to pass the whole Concepts course. Therefore, it does not matter what your other grades are or your attendance, if you do not pass the laboratory part of the course with a 60% or better, you fail the whole course. This is Concepts program policy and not subject to interpretation by your instructor.

(List all components of the course grade -- including attendance and/or participation if relevant -- with point totals for each; indicate point totals and ranges or percentages for grading scale; for S/U grading, detail performance expectations for a passing grade)

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20. Justification for Graduate Credit: n/a

(Include a brief statement explaining how the course meets graduate educational standards (i.e.: rigorous standards for evaluation, development of critical thinking and analytical skills, etc.))

(Included below are standard statements regarding course policies. If necessary, a statement may be altered to reflect the academic policies of individual faculty members and/or the academic unit or department, provided that there is no conflict with the Student Policy eHandbook, Faculty Handbook, or any existing university policy.)

POLICY STATEMENTS

Attendance: Although attendance is not required, students are expected to attend all classes, and will be held responsible for any content covered in the event of an absence.

Excused Absences: Students are granted excused absences from class for the following reasons: illness of the student or serious illness of a member of the student's immediate family, the death of a member of the student's immediate family, trips for student organizations sponsored by an academic unit, trips for university classes, trips for participation in intercollegiate athletic events, subpoena for a court appearance, and religious holidays. Students who wish to have an excused absence from class for any other reason must contact the instructor in advance of the absence to request permission. The instructor will weigh the merits of the request, and render a decision. When feasible, the student must notify the instructor prior to the occurrence of any excused absences, but in no case shall such notification occur more than one week after the absence. Appropriate documentation for all excused absences is required. Please consult the Student Policy eHandbook for more information on excused absences.

Make-Up Policy: Arrangement to make up a missed major examination (e.g. hour exams, mid-term exams) due to properly authorized excused absences must be initiated by the student within one week of the end of the period of the excused absence(s). Except in unusual circumstances, such as the continued absence of the student or the advent of university holidays, a make-up exam will take place within two weeks of the date that the student initiates arrangements for it. Except in extraordinary circumstances, no make-up exams will be arranged during the last three days before the final exam period begins.

Academic Honesty Policy: All portions of the Auburn University student academic honesty code (Title XII) found in the Student Policy eHandbook will apply to university courses. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Disability Accommodations: Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (VITT).
SCMH 1013 Concepts of Science (Distance Learning)

David T. King, Jr., Professor of Geology
Office: 115 Petrie Hall (Petrie is on the corner of Duncan and Thach Avenues, across from Haley Center.)
Mailbox: 210 Petrie Hall, Geology Office (open 7:45 - 11:45 am and 12:45 - 4:45 pm, M-F)
Office Telephone: 334 844-4882
E-mail: kingdt@auburn.edu; Web page (research and biography only): www.auburn.edu/~kingdt
Telephone messages: 334 844-4282 (secretaries present from 7:45 - 11:45 am and 12:45 - 4:45 pm, M-F)

Office hours: Generally, I am in my office at all times during the day, except for those times when I have a university obligation at another location. It is advisable, but not required, to call ahead to my office to tell me that you are coming.

Rationale: Concepts of Science (Distance Learning) is an option in the core curriculum of Auburn University that fulfills one of the two science courses required for most majors. This course gives students a broad understanding and appreciation for the methods and issues of science and technology as well as a detailed knowledge of basic principles, laws, and theories of modern science. Concepts of Science is as rigorous as any other core science course and is not a substitute for any other science course at Auburn University. The Distance Learning aspect of SCMH 1013 requires timely input from students using Canvas and virtual (electronic) attendance during lab times. Students are advised at the outset that it is expected they will spend as much time and effort – or more – preparing for this course as they would for a core-science class in biology, chemistry, and physics at this university. If a student elects to take Concepts of Science, he or she should be enrolled in Concepts of Science before taking any other core science classes. In other words, Concepts of Science should precede your taking BIOL 1010, CHEM 1010, GEOL 1100, PHYS 1000, or PHYS 1050 (see the current AU Bulletin). A student may elect to take Concepts of Science, for example, if he or she is undecided about what subsequent core science class to take and wishes to learn more about all the sciences as a gateway to taking additional science coursework. Taking Concepts of Science out of sequence may result in your not receiving credit for this course as a core science class. Therefore, please consult with your advisor if you have questions. Only your advisor can determine if Concepts of Science is the best core science class for you. For more information, see the Concepts of Science home page at http://www.auburn.edu/SCMH1010.


Electronic attendance (in laboratory sessions): Electronic attendance (being logged in and actively participating) is required at all laboratory class sessions. Because you may electronically attend lab even though you may be at home, laboratory sessions are medically excused only if you present documentation that you are physically incapable of being at your computer to attend laboratory. The excuse must specify that the time of day of your illness, etc. was the same as the time of the electronic laboratory.

Objectives: In accord with university student learning objectives, the student in this course will understand and appreciate the methods and issues of science and technology. To this end, the student in this course will: (a) learn the philosophical and historical foundations of modern science; (b) better understand the scientific method in a variety of situations and demonstrate an ability to interpret the results of experiments as a way of better understanding natural phenomena in several disciplines of science, including chemistry, physics, astronomy, geology, ecology, and biology; (c) understand major scientific issues facing modern society, including the impact of human activity on our planet; and (d) acquire detailed knowledge of basic principles, laws, and theories of modern science. This will be achieved in an electronic format for lecture and laboratory.

Expectations: The purpose of the lecture class is to present course material to you, convey information to you, give assignments and guidance, and help prepare you for your exams. Therefore, students are expected to view all lecture notesets in a timely manner and to respond to assignments to post comments in Canvas right away. Posting comments by the day and time specified is the way that class participation is monitored. The notes posted in the lecture noteset are the basis for exams in the lecture part of the class. Students are also expected to read ahead in the book so that they have a background for understanding noteset lectures over the assigned topics. Additional reading and study of the book is expected after lecture has been reviewed. Students are encouraged to review end-of-chapter material in preparation for exams. Each student is expected to put in an average of THREE HOURS studying outside of class for each hour spend reviewing the lecture notesets. This is a general guideline, and some students may need more study time than this in order to perform well on exams.
Canvas lectures: This course uses Canvas, the AU course on line system for student access, in order to lecture and laboratory portions of this class. You are responsible for downloading in a following the course syllabus and any other required course materials. You are responsible for viewing all required materials in Canvas and either downloading or printing them for study preparation for the exams. Let your instructor know right away if you have problems with access in Canvas. If you are planning to use computer equipment that has difficulty operating in Canvas, you should plan to use another computer or not take the Distance Learning version of this class. Computer problems or computer access issues are not excusable reasons for lack of required participation in this course.

Examinations: Two examinations and a final exam, which is not cumulative, will determine the lecture portion (75%) of the course grade. Each of the two exams and the final will have equal weight. All exams will have a multiple-choice format that includes no "none of the above" or "all of the above" options. I view the three exams as three parts of a large "final exam," which is given in three separate, non-overlapping parts. The material for the exams will come from the lecture notes, which are a distillation of the textbook materials plus some additional notes added by the instructor during lecture. Students are expected to prepare for exams by studying the lecture notes and turning to the textbook for amplification of what is in the notes. Students should not assume that one can prepare for exams by studying someone else’s notes or just reading the book; a careful, daily review of the lecture notes is required to do well on exams. Exam questions will involve three types of questions: (a) knowledge level questions, which will check for knowledge of specific details, definitions, facts, etc.; (b) synthesis level questions, which will check student’s abilities to put two or more knowledge level items together and come up with a synthesis; and (c) application level questions, which will check for the ability to apply concepts and principles to scientific problems in order to reach logical answers. Each exam will contain an appropriate mixture of these three types of questions. There will be about 50 to 75 questions per exam; it is likely that there will be more questions on the final exam because there is more time. The two examinations prior to the final are designed for 50 minutes, but you may have more time if the class period is longer than 50 minutes. Students who have ADA letters on file, and thus qualify for "time and a half" on exams, will have 75 minutes. During the summer, the class period length is at least 75 minutes, so this is equal to time and a half.

The two examinations are given on [insert day of week] (see dates stated in the schedule at the end of this syllabus). The final exam is given on the date specified by the university-approved final exam schedule (again, see schedule at the end for the date and time). These dates may not agree with your personal plans, so students are expected to make any necessary changes in personal plans accordingly. All exams are given in the [insert name of building], which is located at ______.

Absences and Make-ups: You are not automatically entitled to a make-up exam, therefore you should not miss an exam except under extraordinary circumstances. In order to be eligible to take a make-up exam, you must: contact me as soon as you know you will miss the exam; present a valid, written excuse to me as soon as possible before or after the absence (do not wait for the next class period and do not exceed the university’s 5-class day limit); and agree on a mutually acceptable time for the make-up. Once a make-up time and day are set, you MUST appear at that time, or another official excuse is required for missing the agreed make-up session. Make-ups are given only in the [insert name of building and room number], so saying you went to another place like the lecture room is not a valid excuse for missing a make-up.

Grading scheme: Grading on (a) lecture exams and (b) assignment of the whole course grade is based upon a 15-point grading scheme, where an A is 100 to 85%, a B is 84 to 70%, a C is 69 to 55%, a D is 54 to 40%, and an F is below 40% (or failure to attend or pass laboratory or for gross honesty or conduct violation). This grading scheme does NOT pertain to laboratory classes, which have a different point scale (see Important note #2 below).

Important note #1: This grading scale for the whole course has lulled many a student into a false sense of security and left them struggling to pass when they thought it would be easy. Too late, they discovered that the exams are challenging and require in-depth knowledge and mastery of the material only gained by many hours of study.

Important note #2: The grading scale in the laboratory portion of this class is likely to be different (probably a 10-point scale; see the separate laboratory syllabus for your section of laboratory). This difference may be particularly important to note when considering the grade needed to pass laboratory, which will be higher than the 40% needed to pass this class as a whole (i.e., 60%). As noted elsewhere, you must pass laboratory (i.e., you must pass according to the laboratory grading scale, a minimum 60%), in order to pass the whole Concepts course. Therefore, it does not matter what your other grades are or your attendance, if you do not pass the laboratory part of the course with a 60% or better, you fail the whole course. This is Concepts program policy and not subject to interpretation by your instructor.

Laboratory sessions: Your laboratory sessions are organized in two parts. The first part is done by the student working alone using the material for each laboratory posted in Canvas. The first part is about equal in time length (about one hour) to the time spent during the group laboratory session on that material, so plan accordingly. Both the first and second parts
of the laboratory are conducted by a graduate teaching assistant (GTA) or by one or more lab instructors, who will also on occasion communicate with you about lab using your AU email. You are expected to do the first part of the laboratory before the group session of laboratory when all students in your lab class will be on-line and logged in at the same time. There is a deadline of noon on the day before your laboratory group session to submit comments in Canvas related to the first part of your laboratory work. During the second part, the group electronic session of laboratory, all students in that group session must be logged in at all the same time and participate fully using the communication functions of Canvas. A transcript of this session will be made and this is part of your laboratory grade. Also, you must submit required work electronically at the end of the electronic group session. Therefore, it is essential that you are prepared for the electronic group session by doing the first part in advance.

At the end of the term, your graduate teaching assistant or instructor will give me a single grade (as a percent), which represents 25% of the final course grade for the whole class. There is no separate grade for lab on your transcript. Any questions about your laboratory grade should be directed to your graduate teaching assistant or lab instructor as soon as they come up (not to your lecture teacher). Your graduate teaching assistant or lab instructor is responsible for all grading in the laboratory session. Please discuss any concerns that you may have about instruction in the laboratory sessions first with your graduate teaching assistant or lab instructor, and later with your lecture instructor, if necessary. Do NOT turn in laboratory papers or exercises to your lecture instructor or his substitute.

Warning – You must PASS the laboratory portion of the course (according to the laboratory grading scale) in order to pass the whole Concepts of Science class.

The laboratory assignments are announced in advance, usually during laboratory class. Each student is expected to prepare in advance for laboratories and not wait and try to do preparatory work on-line at the last minute before going into laboratory. Any changes in the laboratory assignments will be announced in lecture and/or laboratory class and/or via e-mail sent to all students’ official AU email accounts.

Academic honesty and student conduct policy: Students are referred to the University Bulletin and Tiger Cub for the university-wide academic honesty policy and its enforcement. Students should consult a new version of the Tiger Cub or look on-line at the main AU web page for the classroom conduct policy adopted in 2003, as amended. Students in this class are expected to follow these rules exactly. Further, your instructor reserves the right to enforce any reasonable additional honesty and conduct rules that may not be specifically covered in official documents or in this syllabus. Students should be guided by their conscience and a sense of what is fair to others. If a warning is given to a student about honesty or conduct, he should expect no other second chance to correct his/her behavior. Copying of lecture posts and laboratory assignments is strictly forbidden, and is punishable by any academic penalty that the instructor sees fit. The instructor reserves the right to expel any student who continues to cause a disturbance after being warned of his behavior.

Exam day procedures: On days of scheduled examinations, all students must arrive on time at the examination room [insert building location] with a sharp number-2 pencil, a BLANK university scan form (8.5 x 11 inch size), and a photo ID issued by a US entity (preferably your AU student ID card). DO NOT WRITE on the scan form prior to the exam. You will turn in your blank scan form, which will be redistributed with all others to the class at large before the exam begins. You must turn in your exam and the scan form before leaving the room. It is your responsibility to properly mark your scan form by darkening dots for the answers you choose and giving your name and other information correctly. If you have questions about how to do this, you must ask about it or any bring problem(s) to the staff at the examination room while still in the room and before submitting your paper. Exams are on a closed-book basis. Further, talking to others, using cell phones for any purpose, or using calculators is strictly forbidden during exams. Please turn OFF all cell phones upon entering the room. YOU MUST COME TO THE EXAM WITH YOUR AU ID CARD or some similar form of identification and you may be asked to prove your identity while in the exam room. You must show up at the Distance Learning examination room [insert building location] on time and ready to take the exam on the day and time specified.

Communications: I expect for you to communicate with me (and your lab GTA or instructor, as needed) if you have problems with the class (especially if your grade is low on an exam) and if there are any other problems or questions including computer issues. Saying that your computer did not work properly is generally not an excuse for not doing the assigned work in the assigned time. I do not mind answering e-mail, but please only e-mail me with short questions or comments. I do not have time to type in long answers to questions for dozens of students each day and things like the back-and-forth messaging needed to set up appointments can so much more easily be handled via telephone or just by speaking face-to-face with me (or calling me on the telephone). Please note that I frequently send E-MAIL TO THE ENTIRE CLASS using the official AU email system (which goes automatically to your AU email (tigemail) account). It is university policy that such e-mail is an “official medium” of communication with classes and anything that I send to you this way has as much meaning and effect as if I said it in class. Therefore, you are expected to activate your university e-mail account, check it regularly (recommended three times weekly at least), adjust any “spam filter” so that emails titled
"SCMH 1010 CLASS EMAIL" are received, and to make any necessary provisions for having class e-mails forwarded to any other accounts or devices you prefer to use. Your laboratory GTA or instructor will also email you and you are required to do the same things for him or her as noted above.

**No review sessions:** Due to the nature of this Distance Learning class, no review sessions for lecture or laboratory can be held.

**Changing an exam or the final exam:** Any student who urgently needs to change a final exam time must first obtain written permission from his/her Dean's office to reschedule a final examination. After the Dean's permission form is signed, please bring the form with you when you see me to discuss this matter. Other exam dates cannot be changed for individual students.

**IN grades and missing the final exam:** There are no make ups for the final exam, so you must be present to take it. If you are involved in an accident or are hospitalized due to illness (or something comparable to these conditions), you must get in touch with your lecture instructor as soon as you become aware that you cannot be present for the final exam. An IN grade may be given under these circumstances, and the final exam moved to the next academic term. Students should review the IN policy of Auburn University about the responsibilities of students with IN grades. Until changed, IN grades are computed as Fs for the purposes of GPA calculation.

**Lecture schedule:** The following is the proposed lecture schedule, which is subject to change(s) sent by e-mail or posted in Canvas. If you have questions, ask me. Reading assignments in the textbook are given in this schedule (in parentheses). As discussed above, you are expected to read ahead in the textbook.

**Note to syllabus reviewers:** The week numbers will be adjusted to the specific calendar of the term(s) when this course is offered.

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**Laboratory schedule:** The following is the proposed laboratory schedule, which is subject to change(s) sent by e-mail or posted in Canvas. If you have questions, ask me.

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<td>Topic</td>
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<tr>
<td>Week 11</td>
<td>Lab 9 – Mars’ planetary features</td>
</tr>
<tr>
<td>Week 12</td>
<td>Week off due to exam during the lab session times in the exam center</td>
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<tr>
<td>Week 13</td>
<td>Lab 10 – Plate tectonics</td>
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<tr>
<td>Week 14</td>
<td>Lab 11 – Ecology and ecosystems</td>
</tr>
<tr>
<td>Week 15</td>
<td>Lab 12 – Cells as a source of energy</td>
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