# Course Change Request

## New Course Proposal

Date Submitted: 03/01/19 9:35 pm

Viewing: GEOL 208 : Life on a Dynamic Planet

Last edit: 04/03/19 3:26 pm
Changes proposed by: david-w-sparks

### Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
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<tbody>
<tr>
<td>David Sparks</td>
<td><a href="mailto:david-w-sparks@tamu.edu">david-w-sparks@tamu.edu</a></td>
<td>979-458-1051</td>
</tr>
</tbody>
</table>

Course prefix: GEOL  
Course number: 208

Department: Geology & Geophysics
College/School: Geosciences
Academic Level: Undergraduate

Undergraduate course level justification (Select One)
- College/Program Course Level Rubric

Academic Level: (alternate) Graduate
Effective term: 2020-2021

Complete Course Title
Life on a Dynamic Planet

Abbreviated Course Title
LIFE ON A DYNAMIC PLANET

Catalog course description
- Critical events in the Earth’s 4.6 billion-year history that shaped life as we know it and the tools to investigate them; interactions between global environments, the evolution of life and the geologically recent development of human societies.

Prerequisites and Restrictions

Concurrent Enrollment: No
Should catalog prerequisites / concurrent: No

In Workflow
1. GEPL Department Head
2. Curricular Services Review
3. GE Committee Preparer UG
4. GE Committee Chair UG
5. GE College Dean UG
6. UCC Preparer
7. UCC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path
1. 02/28/19 11:17 am Michael Pope (mcpope): Approved for GEPL Department Head
2. 03/01/19 4:38 pm Terra Bissett (t.bissett): Rollback to Initiator
3. 03/02/19 6:09 am Michael Pope (mcpope): Approved for GEPL Department Head
4. 03/04/19 8:34 am Terra Bissett (t.bissett): Approved for Curricular Services Review
5. 03/04/19 10:42 am Roxanna Russell
This will be a required course or an elective course for the following programs:
<table>
<thead>
<tr>
<th>Program(s)</th>
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<tbody>
<tr>
<td>(BA-GEOL) Geology - BA</td>
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<tr>
<td>(BS-ENGS) Environmental Geosciences - BS</td>
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<tr>
<td>(BS-ENST) Environmental Studies - BS</td>
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Has/will this course be(en) submitted for core curriculum consideration? Yes

Proposed Core Foundational Component Area
Core Life/Physical Sci (KLPS)

Approved Foundational Component Area

Has/will this course be(en) submitted for Writing or Communication consideration? No

Has/will this course be(en) submitted for ICD or CD consideration? No

Course Syllabus

Syllabus: Upload syllabus
Upload syllabus: GEOL_208_Life_Dynamic_Planet_April2019mod.docx

Letters of support or other documentation
No

Additional information

Reviewer Comments
Terra Bissett (t.bissett) (03/01/19 4:38 pm): Rollback: Please answer question on form if course will be a required or elective course.
Terra Bissett (t.bissett) (03/04/19 8:34 am): Update received.
Bob Knight (bob-knight) (03/27/19 9:51 am): Several of the learning outcomes are not measurable.
Sandra Williams (sandra-williams) (04/03/19 4:59 pm): Concerns addressed.
Sandra Williams (sandra-williams) (04/08/19 1:51 pm): UCC approved April 2019.

Reported to state?
Add
CS
Life on a Dynamic Planet

Course title and number: GEOL 208 Life on a Dynamic Planet
Term: Fall XXXX
Meeting times and location:
Lecture: M W TBD
Lab: TBD

Course Description and Prerequisites

**Description:** Critical events in the Earth’s 4.6 billion-year history that shaped life as we know it, and the tools to investigate them; interactions between global environments, the evolution of life and the geologically recent development of human societies.

Credits: 2-1; Prerequisites: None

Learning Outcomes

Upon successful completion of this course students will be able to:
- Pose scientific hypotheses about the Earth system
- Critically evaluate scientific evidence to support and refute hypotheses
- Use data from the sedimentary record to reconstruct events in Earth’s History
- Explain the interactions between life and the Earth system through time
- Apply knowledge gained from past ecosystem changes to pose hypotheses regarding future ecosystem change

Instructor

Name: Dr. Christina Belanger
Telephone number: 458-4372
Email address: Christina.Belanger@tamu.edu
Office hours: TBD
Office location: Halbouty 265

Resource Material

Weekly readings from peer reviewed journals and popular science literature. No textbook.

Grading Policies

The final course grade will be based upon:

- Thought Experiments: 12%
- Laboratory Assignments: 28%
- Take Home Midterm #1: 15%
- Take Home Midterm #2: 15%
- Final Exam: 30%

Students are expected to attend all classes with exceptions provided by the University’s policy for excused absences. For more information, visit [http://student-rules.tamu.edu](http://student-rules.tamu.edu).

Grading Scale

Standard Letter Grading Scale: A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = <60
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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Required Reading &amp; Activity / Lab Topics</th>
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<tbody>
<tr>
<td>1</td>
<td>Historical Hypotheses</td>
<td>Monday: Introduction; Geologic Time&lt;br&gt;Wednesday: Cleland, 2001&lt;br&gt;Lab 1: Clocks in Rocks</td>
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<td>2</td>
<td>Life Against All Odds</td>
<td>Monday: Arndt and Nisbet, 2012&lt;br&gt;Wednesday: Thought Experiment #1&lt;br&gt;Lab 2: Testing Historical Hypotheses</td>
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<td>3</td>
<td>Snowball Earth</td>
<td>Monday: Hoffman and Schrag, 2000 (SA)&lt;br&gt;Wednesday: Thought Experiment #2&lt;br&gt;Lab 3: Climate Controls</td>
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<td>4</td>
<td>Explosion of Diversity</td>
<td>Monday: Marshall, 2006&lt;br&gt;Wednesday: Thought Experiment #3&lt;br&gt;Lab 4: Ways of Being an Animal</td>
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<td>5</td>
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<td>Monday: Complete Part 1 Exam, Collaborative&lt;br&gt;Wednesday: Complete Part 2 Exam, Collaborative&lt;br&gt;Lab 5: The Three Evolutionary Faunas</td>
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<td>6</td>
<td>The Rise and Fall of Seas</td>
<td>Monday: Sheehan, 2001&lt;br&gt;Wednesday: Thought Experiment #4&lt;br&gt;Lab 6: Sedimentary Rocks</td>
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<td>7</td>
<td>Riding the Continents</td>
<td>Monday: Zaffos et al., 2017; Dalziel 2005 (SA)&lt;br&gt;Wednesday: Thought Experiment #5&lt;br&gt;Lab 7: Plate Tectonics</td>
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<td>8</td>
<td>CO2, Heat, and Acid</td>
<td>Monday: Benton and Twitchet, 2003&lt;br&gt;Wednesday: Thought Experiment #6&lt;br&gt;Lab 8: Analyzing Extinctions</td>
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<td>9</td>
<td>Extraterrestrial Impacts</td>
<td>Monday: Schulte et al., 2010; Betz 2017 (DM)&lt;br&gt;Wednesday: Thought Experiment #7&lt;br&gt;Lab 9: Stratigraphic Records</td>
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<td>10</td>
<td>Opportunity from Extinction</td>
<td>Monday: Brusatte and Lou, 2016 (SA); Brusatte 2016&lt;br&gt;Wednesday: Thought Experiment #9&lt;br&gt;Lab 10: Analyzing Radiations</td>
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<td>11</td>
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<td>Monday: Complete Part 1 Exam, Collaborative&lt;br&gt;Wednesday: Complete Part 2 Exam, Collaborative&lt;br&gt;Lab 11: Environmental Reconstruction</td>
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<td>12</td>
<td>Megafaunal Engineers</td>
<td>Monday: Bakker et al., 2016; Switek 2017 (SA)&lt;br&gt;Wednesday: Thought Experiment #10&lt;br&gt;Lab 12: Pollen Records of Change</td>
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<td>13</td>
<td>Holocene Stability (or Not)</td>
<td>Monday: Mayewski et al., 2004; Douglas et al., 2016&lt;br&gt;Wednesday: Thought Experiment #11&lt;br&gt;Lab 13: Holocene Climate Records</td>
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<td>14</td>
<td>The Anthropocene and Beyond</td>
<td>Monday: Kidwell, 2015, Barnosky et al., 2017&lt;br&gt;Wednesday: Thought Experiment #12&lt;br&gt;Lab 14: Conservation Paleobiology</td>
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Assignments

Thought Experiments are short prompts requiring an approximately 1 paragraph response to be turned in via eCampus **before the start of classes on Wednesdays**. Students are expected to discuss their thoughts with classmates at the start of class before a whole group discussion on the topic. Typically, these will ask students to evaluate how an event affected life or how the evolution of new organisms affected earth environments. Students may miss no more than **ONE** Thought Experiment assignment without penalty, except as allowed in accordance with [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07).

Lab Assignments are guided learning projects that will begin during the lab period but often can be completed outside of the lab period if needed. Labs assigned in one week are due at the beginning of the next week’s lab period.

Late Policy and Attendance
Attendance is mandatory with allowances for excused absences with proper documentation in accordance with [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07). Reading Assignments, Thought Experiments, and Laboratory Assignments will not be accepted late, except as in accordance with rule 07.

Americans with Disabilities Act (ADA)
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit [http://disability.tamu.edu](http://disability.tamu.edu).

Academic Integrity
For additional information please visit: [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu)

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”