#### ACADEMIC SENATE PROPOSAL TRACKING SHEET

(Document To Be Originated by the Academic Senate Secretary On Canary Color Paper)

| Proposal # 23-39 | Title: | Major Revisions to Course - GEO 3XX Landscape Geology |
|------------------|--------|---|
|------------------|--------|---|

(Proposal explanation, submitter and college dean signatures on attached program/degree or course revision form.)

All proposals MUST have their originating college faculty body (Arts, Sciences & Education; Health Sciences; Technical Sciences) approval and must be signed by the submitter and the college dean before being submitted to the Academic Senate Secretary.

- 1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms or General Education Inclusion form) to the Academic Senate Secretary. NOTE: Level 1 or Level 2 forms must be submitted concurrent with this proposal where applicable. For Education proposals, PEU approval must be received prior to forwarding the proposal to the Senate.
- 2. The Academic Senate Secretary logs and numbers items and forwards them to the appropriate Academic Senate subcommittee(s): General Education (if applicable), or Curriculum. A digital copy of the proposal will be linked on the Academic Senate Proposal page by the Academic Senate Secretary.
- 3. The Academic Senate subcommittee(s) consider(s) the proposal. If approved, the proposal is returned to the Academic Senate Secretary for forwarding to the next committee. If a committee disapproves the proposal, the committee will provide written rationale to the originator, via the Academic Senate.\* The originator may request that the item be forwarded to the next body for consideration. Upon completion of subcommittee action, the proposal will be returned to the Academic Senate Secretary for consideration at the next Academic Senate meeting.
- 4. The Academic Senate considers the proposal and recommends approval or disapproval. If approved, the proposal is forwarded to the Provost for consideration within 10 working days. If the Academic Senate disapproves the proposal, the Academic Senate will provide written rationale to the originator. \* The originator may request that the item be forwarded to the Full Faculty for consideration, utilizing procedures set forth in the Senate Bylaws.
- Approved proposals will be forwarded to the Provost. The Provost approves or disapproves the proposal. If approved, the proposal is then forwarded to the Chancellor. From this point forward, the Provost's Administrative Assistant will update the Proposal page on the website by contacting the webmaster.
- 7. The Chancellor approves or disapproves the proposal.
- 8. If approved, the proposal will then either be implemented or referred to MSU for further action. The tracking page on the Provost site will be updated as required.

Subcommittee and Academic Senate college representatives will notify their respective colleges of the progress of submitted proposals or the proposal may be tracked via the web page - <a href="http://www.msun.edu/admin/provost/senate/proposals.htm">http://www.msun.edu/admin/provost/senate/proposals.htm</a>

Documentation and forms for the curriculum process are also available on the web page: <a href="http://www.msun.edu/admin/provost/forms.htm">http://www.msun.edu/admin/provost/forms.htm</a>

<sup>\*</sup> If a proposal is disapproved, it is returned to the Dean of the submitting college who then notifies the originator.

|   | Date      | Action Taken   | Signature  DocuSigned by:      | Date        | Comments/Reason for<br>Disapproval                             | Sent to   | Date  | Transmittal<br>E-mail sent |
|---|-----------|--|--------------------------------|-------------|--|-----------|-------|----------------------------|
| Received by<br>Senate Secretary                   | 1/24/2024 | Tracking form initiated  | Brittany Garden                | , 1/24/2024 | Sent to Curriculum   | Committee | 1/24/ | 2024                       |
| General Education<br>Committee (if<br>applicable) |           | ☐ Approved ☐ Disapproved   | 7131CC9454D9458                |             |  |           |       |                            |
| Curriculum Committee (if applicable)              | 2/9/2024  |  | Lasy Donoven                   | 2/9/2024    | Minor concerns wit<br>objectives focused<br>topics and descrip | on micro  |       |                            |
| Academic Senate                                   | 2/25/2024 | <ul><li>☒ Approved</li><li>☐ Disapproved</li></ul>                         | Docusigned by:  Valuncy Guyant | 2/25/2024   | focused on macro t   | opics     |       |                            |
| Provost   |           | Approved   | DE995B0779A143B                | 0/04/24     |  |           |       |                            |
| Chancellor  |           | Approved  Disapproved  | Gugry Degel                    | 6.4.2024    |  |           |       |                            |
|   |           |  |                                | ' /         |  |           |       |                            |
| MSU   |           | ☐ Approved ☐ Disapproved   | ALLA                           |             |  |           |       |                            |
| BOR   |           | ☐ Approved ☐ Disapproved   | MIL                            |             |  |           |       |                            |
| NWCCU   |           | ☐ Approved ☐ Disapproved   |                                |             |  |           |       |                            |
| Provost   |           | Advise originating college and Academic Senate of status. Update Web page. |                                |             |  |           |       |                            |
| Registrar   |           | Catalog/Policy<br>Manual Update  |                                |             |  |           |       |                            |

NOTE: The secretary of the Academic Senate will update the Academic Senate Proposal web page from initial receipt until the proposal reaches the Provost. The Provost's Administrative Assistant will ensure that the current status of each proposal is maintained on the Academic Senate Proposal web page from that point forward.

Academic Senate Form 1 (Revised 4/4/2023)

#### **COURSE REVISION FORM**

| NEW DROPPED MAJOR REVISION_x FOR INFORMATION ONLY  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| For purposes of this form, "For Information Only" should be used for catalog description or objective changes ONLY   |  |  |  |  |  |  |
| College CASE Program Area GEO  |  |  |  |  |  |  |
| Submitter  |  |  |  |  |  |  |
| Please provide a brief explanation & rationale for the proposed revision(s): This is a proposal for updating the ESCI 208 Environmental Geology course. This course has not been taught in over 10 years, and so I'm proposing these updates to course description and objectives to match the updated Biology Program objectives and better serve the students. |  |  |  |  |  |  |
| Please provide the following information:  |  |  |  |  |  |  |
| Course Prefix & No.: GEO 3xx   |  |  |  |  |  |  |
| Current Course Title: Environmental Geology Proposed Course Title (when applicable): Landscape Geology   |  |  |  |  |  |  |
| Current # of Credits: 4 Proposed # of Credits (when applicable): 4   |  |  |  |  |  |  |
| [please specify degrees]: Required by: Biology Minor Selective in: Biology Major Elective in:  |  |  |  |  |  |  |
| General Education Category:  |  |  |  |  |  |  |
| Lecture: Lecture/Lab: 4 Gradable Lab:  |  |  |  |  |  |  |

Lecture contact hours per week: 3

Lab contact hours per week: 2

# Current Catalog Description (include all prerequisites):

An introduction to such geological phenomena as earthquakes, volcanism, and flooding which influence humans and human civilization. Lecture and laboratory hours are included. Prerequisites: MATH 120 or placement into MATH 112 or MATH 130.

## Proposed or New Catalog Description (include all prerequisites):

This course focuses on the origin/evolution of landforms and the physical processes responsible for their creation and modification. Each topic will relate to the recurring themes that geologists use as guiding principles for the course: laws of conservation, transport rules, and event magnitude/frequency. The course covers the "big picture" view of geomorphology,

the construction of landscapes, and the surface processes responsible for sculpting the landscape.

### **Course Outcomes/Objectives:**

- Understand the linkages between landscape and geological processes.
- Learn how to use scientific methods to understand geological processes.
- Learn how mineral chemistry and crystallography relate to physical properties of minerals and rocks.
- Learn how to use microscopes to identify patterns in minerals, rocks, and geological thin sections.

Please note additional instructional resources needed, if any (including library materials, special equipment, and facilities). Approval does not indicate support for new faculty or additional resources.

Lab Fee \$10.00

Updated 4/4/2023

GEO 3xx: Landscape Geology

#### **Instructor Contact Information**

Dr. Kyra Kaercher HGNRSC 208 406-265-4126 Kyra.kaercher@msun.edu

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#### Grading

Exams: 5 Lecture; 2 Lab (35%) Participation (10%) Homework/Lab Reports (35%) Final Essay (25%)

A-100 - 93% A- 92 - 90% B+ 89 - 87% B 86 - 83% B- 82 - 80% C+ 79 - 77%

C 76 - 73%

C- 72 - 70%

D+ 69 - 67% D 66 - 63%

D- 62 - 60%

D 600/ - - I

F 59% and under

### **Textbook**

Anderson, R.S. and S.P. Anderson, 2010, Geomorphology; *Mechanics and Chemistry of Landscapes*, Cambridge University Press.

Anderson, R.S., The Little Book of Geomorphology - available as a  $\sim \! 15 MB$  download from: Brightspace

## Schedule

| Week    |   | Chapter                |
|---------|---|------------------------|
| 1       | Introduction; Whole Earth Shape, Global           | Chapter 1; Chapter 2   |
| Jan 8   | Hypsometry  | ,                      |
|         | Lab: Rock Cycle                                   |                        |
| 2       | Ocean and Continent Shapes, Tectonic Plate        | Chapter 3              |
| Jan 15  | Motion  | _                      |
|         | Lab: Minerals                                     |                        |
| 3       | Tectonic Geomorph I; Crust Change, Erosion,       | Chapter 3; Chapter 4   |
| Jan 22  | Faults  |                        |
|         | Lab: Igneous Rocks                                |                        |
| 4       | Tectonic Geomorph II: Paleoseismology;            | Chapter 4              |
| Jan 29  | Deformation; Test 1                               | _                      |
|         | Lab: Metamorphic Rocks                            |                        |
| 5       | Earth's Atmosphere; Sun, Radiation; Climate;      | Chapter 5              |
| Feb 5   | Lab: Sedimentary Rocks                            |                        |
| 6       | Landforms, Dating, Geothermometry, Exhumation     | Chapter 6              |
| Feb 12  | Lab: Rocks and Minerals under microscope          |                        |
| 7       | Weathering Rock; Denudation; Physical and         | Chapter 7              |
| Feb 19  | Chemical Processes                                |                        |
|         | Lab: Soil profiles                                |                        |
| 8       | Hillslopes; Diffusion; Processes; Landslides Test | Chapter 10             |
| Feb 26  | 3   |                        |
|         | Lab: Soils under microscope                       |                        |
| 9       | Glaciers and Glacial Geology                      | Chapter 8              |
| March 4 | Lab: Soils under microscope                       |                        |
| 10      | Periglacial Forms and Processes                   | Chapter 9              |
| March   | Lab: Test 1                                       |                        |
| 11      |   |                        |
| 11      | Rivers I; Flows, Geometry; Patterns; Hydraulic    | Chapter 11; Chapter 12 |
| March   | Geometry  |                        |
| 18      | Lab: Maps   |                        |
| 12      | SPRING BREAK                                      |                        |
| March   |   |                        |
| 25      |   |                        |
| 13      | Rivers II; Bedrock River Incision; Erosional      | Chapter 13             |
| Apr 1   | processes   |                        |
|         | Lab: Streams and Rivers                           |                        |

| 14     | Rivers III; Sediment Transport; Laws; Suspended | Chapter 14 |
|--------|---|------------|
| Apr 8  | Sediment Transport Test 4                       |            |
| •      | Lab: Slopes and Subsidence                      |            |
| 15     | Costal Processes and Landforms; Tides, Waves,   | Chapter 16 |
| Apr 15 | Currents  |            |
| •      | Lab: Coastal Processes and Problems             |            |
| 16     | Wind as geomorphic agent; Glacial               | Chapter 15 |
| Apr 22 | geomorphology                                   |            |
| •      | Lab: Test                                       |            |
| Finals | Apr 29-May 2 Test 5                             |            |