WINONA STATE UNIVERSITY
REQUIRED CHECKLIST FOR ALL CURRICULAR PROPOSALS

Course or Program: GEOS 107

This checklist enables A2C2 representatives to endorse that their departments have accurately followed the Process for Accomplishing Curricular Change. For each course or program proposal submitted to A2C2, this checklist must be completed, signed by the submitting department’s A2C2 representative, and included with the proposal when forwarded for approval. Peer review of proposals is also strongly advised, e.g., departments should discuss and vote on the proposals as submitted to A2C2, rather than on just the ideas proposed or drafts of proposals.

If a proposal fails to follow or complete any aspect of the process, the Course and Program Proposal Subcommittee will postpone consideration of the proposal and return it to the department’s A2C2 representative for completion and resubmission. Resubmitted proposals have the same status as newly submitted proposals.

Note: This form need not be completed for notifications.

1. The appropriate forms and the “Approval Form” have been completed in full for this proposal. All necessary or relevant descriptions, rationales, and notifications have been provided.
   [ ] Completed

2a. The “Financial and Staffing Data Sheet” has been completed and is enclosed in this proposal, if applicable.
   [ ] Completed   [ ] NA

2b. For departments that have claimed that “existing staff” would be teaching the course proposed, an explanation has been enclosed in this proposal as to how existing staff will do this, e.g., what enrollment limits can be accommodated by existing staff. If no such explanation is enclosed, the department’s representative is prepared to address A2C2’s questions on this matter.
   [ ] Completed   [ ] NA

3. Arrangements have been made so that a department representative knowledgeable of this proposal will be attending both the Course and Program Proposal Subcommittee meeting and the full A2C2 meeting at which this proposal is considered.
   [ ] Completed

   Name and office phone number of proposal’s representative: Dr. J. Meyers / S. T. Allard

4. Reasonable attempts have been made to notify and reach agreements with all university units affected by this proposal. Units still opposing a proposal must submit their objections in writing before or during the Course and Program Proposal Subcommittee meeting at which this proposal is considered.
   [ ] Completed   [ ] NA

5. The course name and number is listed for each prerequisite involved in this proposal.
   [ ] Completed   [ ] NA

6. In this proposal for a new or revised program (major, minor, concentration, etc.), the list of prerequisites provided includes all the prerequisites of any proposed prerequisites. All such prerequisites of prerequisites are included in the total credit hour calculations.
   [ ] Completed   [ ] NA

7. In this proposal for a new or revised program, the following information for each required or elective course is provided:
   a. The course name and number.
   b. A brief course description.
   c. A brief statement explaining why the program should include the course.
   [ ] Completed   [ ] NA

8. This course or program revision proposal:
   a. Clearly identifies each proposed change.
   b. Displays the current requirements next to the proposed new requirements, for clear easy comparison.
   [ ] Completed   [ ] NA

9. This course proposal provides publication dates for all works listed as course textbooks or references using a standard form of citation. Accessibility of the cited publications for use in this proposed course has been confirmed.

[Signature]
Department’s A2C2 Representative or Alternate

[Signature]
Date

[Revised 9-05]
WINONA STATE UNIVERSITY
PROPOSALS FOR NEW COURSES

DIRECTIONS FOR THE DEPARTMENT

This form, Proposal for New Courses, is to be used to submit course proposals for any new undergraduate or graduate course. Read the directions below for information on providing course descriptions and impact of approval on other departments. The department must include a Financial and Staffing Data Sheet and an Approval Form with this proposal. Copies of each of these forms are attached. Refer to Regulation 3-4, Policy for Changing the Curriculum, for complete information on submitting proposals for curricular changes.

Provide the following information when submitting a new course proposal.

A. Provide a description of the course. This description must include the following information.

1. Description of the course as it will appear in the WSU catalog.
2. Syllabus or course outline of the major topics, themes, subtopics, etc., to be covered in the course. This outline should be, at a minimum, a two-level outline, i.e., consisting of topics and subtopics.
3. Indicate the instructional delivery methods and course media codes used.
4. Course requirements (papers, lab work, projects, etc.) and means of evaluation.
5. List of course materials. This list may include textbooks, articles, monographs, software, etc.
6. Bibliography, including author, title, date, for a reasonable number of scholarly materials such as articles and books.

The above course description does not preclude future revisions of course content, texts used, methods of instruction and forms of evaluation.

B. Provide a rationale for the new course. The rationale should include the following items.

1. Statement of the major focus and objectives of the course.
2. Statement specifying how this course will contribute to the departmental curriculum.
3. Courses which may be dropped, if any, if this course is implemented.

C. Provide a statement of the impact of this course on other departments, programs, majors, and minors.

1. Clearly state the impact of this course on courses taught in other departments. Does this course duplicate the content of any other course? Is there an effect on prerequisites?
2. Would approval of this course change the total number of credits required by any major or minor of any department? If so, the department must indicate which departments are affected and explain carefully the effects of the course.
3. If this course has an impact on the major or minor of any other department or any program, it is the responsibility of the department submitting the course proposal to send written notification to the department(s) or program(s) affected. State clearly which other programs are affected by this proposal and whether the other departments have been notified and/or consulted.

D. If this course is also being submitted for inclusion in the University Studies Program, the form Proposal for University Studies Course and appropriate approval form must also be completed and submitted according to the instructions on that form.

Note: If any of the requested information is missing, the proposal will not be reviewed by the A2C2 Course and Program Proposal Subcommittee or the Graduate Council but will instead be returned to the department.

[Revised 7-5-07]
WINONA STATE UNIVERSITY
PROPOSAL FOR NEW COURSES

Department: Geoscience

Date: October 6, 2008

Refer to Regulation 3-4, Policy for Changing the Curriculum, for complete information on submitting proposals for curricular changes.

Course Number: GEOS 107
Course Title: Geology in the National Parks
Credits: 3 sem hrs

This proposal is for a(n) X Undergraduate Course ______ Graduate Course

Applies to: Major ______ Minor ______ University Studies* ______ Not for USP

X Required ______ Required ______ Elective ______ Elective

Prerequisites: None

Grading method: X Grade only ______ P/NC only ______ Grade and P/NC Option

Frequency of offering: X on demand

*For University Studies Program course approval, the form Proposal for University Studies Courses must also be completed and submitted according to the instructions on that form.

Provide the following information:

A. Course Description
   1. Catalog description
   2. Course outline of the major topics and subtopics (minimum of two-level outline).
   3. Instructional delivery methods utilized (Please check all that apply).

Lecture: X Auditorium

ITV Online Web Enhanced Web Supplemented
Lecture: Classroom Service Learning Travel Study Laboratory Internship/Practicum

Other: (Please indicate)

3.b. MnSCU Course media codes: (Please check all that apply).

None: X

2. CD Rom 5. Broadcast TV 8. ITV Receiving

4. Course requirements (papers, lab work, projects, etc.) and means of evaluation.
5. Course materials (textbook(s), articles, etc.).
6. Assessment of Outcomes
7. List of references.

B. Rationale
1. Statement of the major focus and objectives of the course.
2. Specify how this new course contributes to the departmental curriculum.
3. Indicate any course(s) which may be dropped if this course is approved.

C. Impact of this Course on other Departments, Programs, Majors, or Minors
1. Does this course increase or decrease the total credits required by a major or minor of any other department? If so, which departments?
2. Attach letter(s) of understanding from impacted department(s).

Attach a Financial and Staffing Data Sheet and an Approval Form with appropriate signatures.
Department Contact Person for this Proposal:

Dr. James Meyers x 5296 imeyers@winona.edu

Name (please print) Phone e-mail address
Course Description

Catalogue Description

GEOS 107 - Geology in the National Parks (3cr) - A study of geology in U.S. National Parks reveals how Earth processes have interacted with one another and with the bedrock to create landscapes and the geological framework of the North American Continent (Taught beginning Fall semester, 2009, and on demand in subsequent years)

Course Outline

I. The Geologic View of Time
   A. Grand Canyon National Park and Steno's principles – Precambrian and Paleozoic History
      1. Activity – deciphering sequence of events
      2. Activity - Sedimentary facies
      3. Activity - Ancient environments
   B. Zion National Park – Mesozoic history
      1. Activity – deciphering sequence of events
      2. Activity - Sedimentary facies
      3. Activity - Ancient environments
   C. Bryce Canyon – Cenozoic history
      1. Activity – deciphering sequence of events
      2. Activity - Sedimentary facies
      3. Activity - Ancient environments

II. Stream erosion and the landscape
   A. Grand Canyon
      1. Principles of erosion by running water
      2. Activity – calculation of discharge of the Colorado River, and dynamic equilibrium in river systems
   B. Zion
   C. Bryce
   D. Arches
   E. Badlands
      1. Controls of bedrock, climate and vegetation on drainage systems
      2. Activity – comparing landscapes in semi-arid regions vs. humid-temperate regions
   F. Theodore Roosevelt

III. Glaciers and the landscape
   A. Grand Teton National Park
      1. Principles of glacial erosion and deposition
      2. Landscapes formed by alpine glaciation
      3. Activity – Interpretation of glacial history based on landforms
   B. Glacier National Park
   C. Yosemite National Park
   D. Voyageurs National Park and Minnesota State Parks
      1. Principles of continental glaciation (ice caps) and formation of landscapes
      2. Activity – Interpretation of glacial history based on landforms
   E. Acadia National Park

IV. Groundwater and the landscape
   A. Principles of groundwater movement and formation of karst topography
   B. Mammoth Cave National Park
      1. Activity – Formation of karst plains and caverns
      2. Calculating groundwater flow rates and spring discharge
   C. Carlsbad Caverns National Park
   D. Wind Cave National Park
V. Volcanism and the landscape
   A. Hawaii Volcanoes National Park
      1. Processes and plate tectonic setting of quiet volcanic activity landforms
      2. Activity – plates and plate boundaries landforms
   B. Haleakala National Park
   C. Yellowstone National Park
      1. Processes and geologic setting of explosive volcanic activity and formation of landforms
      2. Activity – Relationship between distance from volcano and size of ash particles landforms
   D. Crater Lake National Park

VI. Landscapes and structures in areas of complex mountains
   A. Shenandoah National Park - Plate tectonics and the formation of folded mountain ranges
   B. Grand Teton National Park
   C. Death Valley National Park - Plate tectonics and the formation of block-faulted mountain ranges

Instructional Methods

- In this large-section university studies course, lectures will be utilized to present basic knowledge, but more importantly are intended to be opportunities for students to observe the instructor's reasoning process as she thinks through key concepts in geoscience.
- Lectures will include thought puzzles and activities to help students to critically analyze geologic processes and outcomes, because the thought process is more important than content.
- Both in- and out-of-class activities, including web activities, will give students an opportunity to work with maps and cross sections, and to practice critical thinking through application of geological concepts.
- Exams are an important part of the learning experience and are fashioned to reinforce geologic reasoning and content. They are designed to be a series of logical puzzles and geoscience reasoning exercises.

Course Requirements and Means of Evaluation

Requirements
- Four exams including a comprehensive final.
- Activities to be completed and turned in using D2L.

Grading
- Exam 1 15%, Exam 2 20% Exam 3 20% Exam 4 (comprehensive final) 25%
- Activities 20%

Course Materials

Primary Text


Secondary Text (for Reference)

Lille, R.J., 2005, Parks and Plates: W.W. Norton, New York, 298 P.
Assessment of Outcomes

Assessment of outcomes will primarily be built into exams. Exam questions will be designed to show whether the outcomes have been achieved. Questions will be coded according to the intended outcome(s) so that a quantitative analysis of success can be completed.

Student progress in demonstrating and developing critical thinking skills through activities submitted using D2L will also be an important means of assessing outcomes.

Rationale

Major Focus and Objectives

Students will study the geology of U.S. National Parks to

- Learn how geological processes shape planet Earth
- Learn how geologists use scientific concepts to read the record of Earth history in rocks and landscapes
- Understand the history of geological evolution of the North American Continent
- Develop awareness of geology in some of the most commonly visited natural areas of the United States

Course contributions to department curriculum

Serves as an introductory course that enables students to participate in GECS 130 Earth and Life through Time, which is the entry course to majors in the Geoscience Department.

Courses to be dropped from department curriculum

No courses will be dropped. But the proposed course will not require additional faculty resources. Instead, the course will be placed in a pool of 100-level courses from which the department will choose 100-level offerings for each semester. These courses may all serve as an entry point into GEOS 130 (Earth and Life through Time), which is the entry course into the department's major/minor curriculum.

Impact of this Course on other Departments, Programs, Majors, or Minors

None

Financial and staffing data sheet

Attached

Approval Form with signatures

Attached
WINONA STATE UNIVERSITY
FINANCIAL AND STAFFING DATA SHEET

Course or Program: GEOS 107 Geology in the National Parks

Include a Financial and Staffing Data Sheet with any proposal for a new course, new program, or revised program.

Please answer the following questions completely. Provide supporting data.

1. Would this course or program be taught with existing staff or with new or additional staff? If this course would be taught by adjunct faculty, include a rationale.

   Taught by existing staff

2. What impact would approval of this course/program have on current course offerings? Please discuss number of sections of current offerings, dropping of courses, etc.

   No impact on current offerings. The course will be placed in a pool of 100-level courses from which the department will choose 100-level offerings for each semester. These courses may all serve as an entry point into GEOS 130 (Earth and Life Through Time), which is the entry course into the department's major/minor curriculum.

3. What effect would approval of this course/program have on the department supplies? Include data to support expenditures for staffing, equipment, supplies, instructional resources, etc.

   No impact on supplies because

   a. the course is non-laboratory and is not supply-intensive

   b. its offering will not increase the number of 100-level courses that the department makes available to students in any given semester

[Revised 9-07]
WINONA STATE UNIVERSITY
NEW AND REVISED COURSE AND PROGRAM APPROVAL FORM

Routing form for new and revised courses and programs.  
Course or Program:  **Geoscience**

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<td>Department Chair</td>
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<td>Will Peterson</td>
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[Revised 3-5-07]