Cover Sheet: Request 10675

Bachelor of Sciences-Geology

Info

Process	Major Curriculum|Modify|Ugrad/Pro
Status	Pending
Submitter	Meert,Joseph G jmeert@ufl.edu
Created	1/13/2016 12:36:22 PM
Updated	3/13/2016 12:00:16 PM
Description	Request changes that clarify and more clearly define the requirements for the BS degree. Reduced critical tracking from 6 courses to 5

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CLAS - Geological Sciences 011610000	Foster, David A		1/13/2016
Deleted GeologyMajor with Major and Gen Ed revisions.docx					1/13/2016
College	Recycled	CLAS - College of Liberal Arts and Sciences	Pharies, David A	B.S. in Geology – conditionally approved. • B.A. and B.S. must be submitted separately. Note that the B.S. submission unnecessarily includes the B.A. • Explain and clarify what is meant by the phrase "pure math". • Rewrite the "proposed changes and "pedagogical rational" for clarity and succinctness. Much of the current text is unnecessary.	2/10/2016
No document changes					
Department	Approved	CLAS - Geological Sciences 011610000	Foster, David A		2/17/2016
Deleted BSchanges.docx Deleted BSchangesclean.docx					2/17/2016 2/17/2016
College	Approved	CLAS - College of Liberal Arts and Sciences	Pharies, David A		2/19/2016
No document changes					
University Curriculum Committee	Comment	PV - University Curriculum Committee (UCC)	Case, Brandon	Added to the March agenda.	2/22/2016
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			2/22/2016

Step	Status	Group	User	Comment	Updated
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
Academic Assessment Committee Notified					
No document changes					
College Notified					
No document changes					

Major|Modify_Curriculum for request 10675

Info

Request: Bachelor of Sciences-Geology
Submitter: Meert,Joseph G jmeert@ufl.edu
Created: 2/17/2016 10:49:12 AM
Form version: 3

Responses

Major Name
Enter the name of the major. Example: "Mathematical Modeling"

Response:
Geology

Major Code
Enter the two-letter or three-letter major code.

Response:
GLY

Degree Program Name
Enter the name of the degree program in which the major is offered.

Response:
Bachelor of Science

Effective Term
Enter the term (semester and year) that the curriculum change would be effective.

Response:
Summer

Effective Year

Response:
2016

Proposed Changes
Describe the proposed changes to the curriculum.

Response:
BS - Critical Tracking: added more specificity in tracking courses to simplify planning for students.
BS - Major Requirements: no increase in minimum hours for the major. Corrected an

error.

Pedagogical Rationale/Justification
Describe the rationale for the proposed changes to the curriculum.

Response:
Clarified and codified critical tracking requirements for ease of advising/tracking through the BS

Impact on Enrollment, Retention, Graduation
Describe any potential impact of the curriculum changes on students who are currently in the major.

Response:
We do not anticipate these changes will affect initial enrollment or retention.

Bachelor of Science: This degree is designed for students planning to take the professional geology (PG) licensure exam and/or to continue on to graduate study in geology. It emphasizes a core understanding of petrology, structural geology, field methodology and paleontology, and it requires significant introductory coursework in calculus, general chemistry and physics.

Bachelor of Science

The professional degree is for students who want to pursue graduate school and careers in geosciences and/or environmental science. The major is extremely flexible and allows specialization in a number of subdisciplines (geochemistry, geophysics, geobiology, and hydrogeology).

The major requires 39-40 credits of geology coursework. Students must earn minimum grades of C for coursework to count toward the major.

Required Coursework

Introductory Coursework (7-8 credits)

- General Introductory course: GLY 2010C Physical Geology, GLY2030C Environmental and Engineering Geology, or any 1000-2000 level GLY, OCE or ESC course (3-4 credits)
- Historical Geology Course: GLY2100C Historical Geology or GLY3105C Evolution of Earth and Life (4 credits)

Geology BS Core Coursework (24 credits)

- GLY 3200C Principles of Mineralogy, 4 credits
- GLY 4310C Igneous and Metamorphic Petrology, 4 credits
- GLY 4400C Structural Geology and Tectonics, 4 credits
- GLY 4552C Sedimentary Geology, 4 credits
- 8 credits minimum of additional Geology courses at the 3000 level or higher, excluding GLY3105C

Geology BS Capstone Coursework (8 credits)

- GLY 4750L Geological Field Methods, 2 credits
- GLY 4790 Geology Summer Field Camp, 6 credits

Related Coursework

- **At least 15-16 credits of related coursework:**
    - CHM 2045/CHM 2045L General Chemistry 1 and Laboratory, 4 credits
    - MAC 2311 Calculus 1, 4 credits
    - One semester of physics and Laboratory (PHY 2004/PHY 2004L Applied Physics 1 or PHY 2048 /PHY 2048L Physics with Calculus 1 or PHY 2053 PHY Physics 1), 4-5 credits

Remaining credits can be chosen from CGS 2531 Problem Solving Using Computer Software, CHM 2046 General Chemistry 2, CHM 2046L General Chemistry 2 Laboratory, PHY 2005 Applied Physics 2, PHY 2005L Applied Physics 2 Laboratory, PHY 2049 Physics with Calculus 2, PHY 2049L Physics with Calculus 2 Laboratory, PHY

2054 Physics 2, PHY 2054L Physics 2 Laboratory; MAC 2312 Calculus 2, MAC 2313 Calculus 3 or STA 2023 Introduction to Statistics or other science credits at the 2000 level and above approved by the department. Specific courses selected from among the alternatives listed above will depend upon the student's primary interest.

Students interested in **graduate school** are urged to take a year of chemistry, calculus and physics. Students should contact a departmental advisor as early as possible.

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Critical Tracking

To graduate with this major, students must complete all university, college and major requirements. For degree requirements outside of the major, refer to CLAS Degree Requirements: Structure of a CLAS Degree.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

Semester 1

- 2.0 UF GPA required

Semester 2

- 2.0 UF GPA required

Semester 3

- Complete one General Introductory Course (GLY 2010C Physical Geology, GLY 2030C Environmental and Engineering Geology, or any 1000-2000 level GLY, OCE, or ESC course)**. GLY 2010C is recommended as it is a prerequisite for many upper-level courses.**
- 2.0 UF GPA required

Semester 4

- Complete Historical Geology course (GLY 2100Cor GLY 3105C) or GLY 3000-level geology course.
- Complete one Related Coursework requirement (CHM 2045/CHM 2045L, MAC2311, or PHY2004/2048/2053 + associated lab)
- 2.5 Critical Tracking GPA
- 2.0 UF GPA required

Semester 5

- Complete one 3000-level geology course (or Historical Geology course if not taken in Term 4)
- Complete one additional Related Coursework requirement (CHM 2045+ 2045L, MAC2311, or PHY2004/2048/2053 + associated lab)
- Maintain a 2.5 critical-tracking GPA
- 2.0 UF GPA required

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Recommended Semester Plan

Students are expected to complete the writing requirement while in the process of taking the courses below. Students are also expected to complete the general education international (GE-N) and diversity (GE-D) requirements concurrently with another general education requirement (typically GE-C, H or S).

Semester 1	Credits
IUF 1000 What is the Good Life (GE-H)	3
MAC 2311 Analytic Geometry and Calculus 1 (State Core GE-M)	4
Composition (State Core GE-C) (WR)	3
Foreign language	4-5
Total	14-15

Semester 2	Credits
CHM 2045 and 2045L General Chemistry 1 (3) and General Chemistry 1 Laboratory (1) (both State Core GE-P)	4
MAC 2312 Analytic Geometry and Calculus 2 (4) (GE-M) or PHY 2004 and 2004L Applied Physics 1 (3) and Applied Physics 1 Laboratory (1) (both GE-P)	4
Foreign language	3-5
Social and Behavioral Sciences (State Core GE-S)	3
Total	14-16

Semester 3	Credits

CHM 2046 and 2046L General Chemistry 2 (3) and General Chemistry 2 Laboratory (1) (both GE-P) or Approved science course (GE-P)	4
GLY 2010C Physical Geology (4) or Other introductory GLY course (both GE-P)	3-4
PHY 2005 and 2005L Applied Physics 2 (3) and Applied Physics 2 Laboratory (1) (both GE-P) or Approved science course (GE-P)	4
Social and Behavioral Sciences (GE-S)	3
Total	14-15

Semester 4	Credits
GLY 2100C Historical Geology (GE-P) or GLY 3105C Evolution of Earth and Life	4
Biological Science (GE-B)	3
Humanities (State Core GE-H)	3
Mathematics (GE-M) or Elective if Calculus 2 taken in semester 2	3
Social and Behavioral Sciences (GE-S)	3
Total	16

Semester 5	Credits
GLY 3200C Principles of Mineralogy (GE-P)	4
GLY 4750L Geologic Field Methods	2
Electives (3000 level or above, not in major)	6
Humanities (GE-H)	3
Total	15

Semester 6	Credits
GLY 4310C Igneous and Metamorphic Petrology (GE-P)	4
GLY 4400C Structural Geology and Tectonics	4
Biological Science (GE-B)	3
Geology elective (any GLY course 3000 level or above)	2
Elective (3000 level or above, not in major)	3
Total	16

Summer	Credits

GLY 4790C Summer Field Camp	6
Total	6

Semester 7	Credits
GLY 4552C Sedimentary Geology	3
Composition (GE-C)	3
Elective (3000 level or above, not in major)	3
Geology elective (any GLY 3000 level or higher)	3
Total	12

Semester 8	Credits
GLY 3603C Paleontology (GE-P)	4
GLY 4905 Individual Work or elective	3
Elective (3000 level or above, not in major)	6
Total	13

Bachelor of Science: This degree is designed for students planning to take the professional geology (PG) licensure exam and/or to continue on to graduate study in geology. It emphasizes a core understanding of petrology, structural geology, field methodology and paleontology, and it requires significant introductory coursework in calculus, general chemistry and physics.

Bachelor of Science

The professional degree is for students who want to pursue graduate school and careers in geosciences and/or environmental science. The major is extremely flexible and allows specialization in a number of subdisciplines (geochemistry, geophysics, geobiology, and hydrogeology).

The major requires 39-40 credits of geology coursework. Students must earn minimum grades of C for coursework to count toward the major.

~~Students must complete at least 7-8 credits of coursework in the Department of Geology at the 1000/2000 level.~~

~~Students must complete at least 32 credits of coursework in the Department of Geology at the 3000 level or above, including the capstone course GLY 4790 in the senior year.~~

Required Coursework

- **Introductory Coursework (7-8 credits)**
  - General Introductory course: GLY 2010C Physical Geology, GLY2030C Environmental and Engineering Geology, or any 1000-2000 level GLY, OCE or ESC course (3-4 credits)
  - Historical Geology Course: GLY2100C Historical Geology or GLY3105C Evolution of Earth and Life (4 credits)

Geology BS Core Coursework (24 credits)

- ~~GLY 2100C Historical Geology, 4 credits~~
- ~~GLY 3105C Evolution of Earth and Life in America, 4 credits~~
- GLY 3200C Principles of Mineralogy, 4 credits
- GLY 4310C Igneous and Metamorphic Petrology, 4 credits
- GLY 4400C Structural Geology and Tectonics, 4 credits
- GLY 4552C Sedimentary Geology, 4 credits
- 8 credits minimum of additional Geology courses at the 3000 level or higher, excluding GLY3105C

Geology BS Capstone Coursework (8 credits)

- GLY 4750L Geological Field Methods, ~~4~~ 2 credits
- GLY 4790 Geology Summer Field Camp, 6 credits

Related Coursework

Commented [MU1]: Deleted and replaced with elaborated section below which reorganizes requirements for enhanced clarity to students.

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Commented [MU2]: Note that these requirements are the same as the previous catalog (included in the previous list of critical tracking courses) but now broken out into separate categories to enhance the clarity of the intended course sequence.

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Commented [MU3]: GLY3105C and GLY 2100C both cover the important fundamental aspects of historical geology with a slightly different focus. As such taking both is somewhat redundant and both serve to meet the intended historical geology course requirement detailed above.

Commented [MU4]: See note above re GLY 3105C which now serves to fulfill the Historical Geology requirement.

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Commented [MU5]: This course has been a 2-credit course. This change corrects an error in the current catalog.

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- **At least 15-16 credits of related coursework:**
  - CHM 2045/CHM 2045L General Chemistry 1 and Laboratory, ~~3~~ 4 credits
  - MAC 2311 Calculus 1, 4 credits
  - One semester of physics and Laboratory (PHY 2004/PHY 2004L Applied Physics 1 or PHY 2048 /PHY 2048L Physics with Calculus 1 or PHY 2053 PHY Physics 1), ~~3~~ 4 ~~5~~ credits
- Remaining credits can be chosen from CGS 2531 Problem Solving Using Computer Software, ~~CHM 2045L~~ Chemistry 2, CHM 2046L General Chemistry 2 Laboratory~~;~~ , ~~PHY 2004L Applied Physics 1 Laboratory,~~ PHY Physics 2 Laboratory, ~~PHY 2048L Physics with Calculus 1 Laboratory,~~ PHY 2049 Physics with Calculus 2, PHY 2049L Physics with Calculus 2 Laboratory, ~~PHY 2053L Physics 1 Laboratory,~~ PHY 2054 Physics 2, PHY 2054L Physics 2 Laboratory; MAC 2312 Calculus 2, MAC 2313 Calculus 3 or STA 2023 Introduction to Statistics~~; and~~
  Additional or other science credits at the 2000 level and above~~,~~ approved by the department. ~~(Examples include AST 2008 Introduction to the Stars and Galaxies, BSC 2010 Integrated Principles of Biology 1, BSC 2010L Integrated Principles of Biology 1 Laboratory, BSC 2011 Integrated Principles of Biology 2, BSC 2011L Integrated Principles of Biology 2 Laboratory, GIS 3043 Foundations of Geographic Information Systems, MCB 2000 Introduction to Microbiology, MCB 2000L Introduction to Microbiology Laboratory, SWS 3022 Introduction to Soils in the Environment, SWS 3022L Introduction to Soils in the Environment Laboratory.)~~

Students interested in **graduate school** are urged to take a year of chemistry, calculus and physics. Students should contact ~~the advisor in 355 Williamson~~a departmental advisor as early as possible.

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Critical Tracking

To graduate with this major, students must complete all university, college and major requirements. For degree requirements outside of the major, refer to CLAS Degree Requirements: Structure of a CLAS Degree.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

Semester 1

- 2.0 UF GPA required

Semester 2

- 2.0 UF GPA required

Semester 3

- Complete ~~2 of 6 critical-tracking courses with a 2.5 critical-tracking GPA. Choose two from CHM 2045, CHM 2046, ESC 1000, GLY 1000, GLY 1073, GLY 1102, GLY 2010C, GLY 2038, GLY 2100C, GLY 3083C, GLY 3105C, GLY 3200, MAC 2311, MAC 2312, OCE 1001, PHY 2004, PHY 2005.~~one General Introductory Course (GLY 2010C Physical Geology, GLY 2030C Environmental and Engineering Geology, or any 1000-

Commented [MU6]: Copy changed to clarify that the associated lab course is required. In the previous copy the lab courses were included as part of a long list of elective options.

2000 level GLY, OCE, or ESC course).
upper-level courses~~, in semester 3 or 4~~**.**

- 2.0 UF GPA required

Semester 4

- Complete ~~2 additional critical-tracking courses. One must be chosen from~~Historical Geology course (GLY 2100C~~,~~ or GLY 3105C) or GLY ~~3200C~~ 3000-level geology course.
- Complete one Related Coursework requirement (CHM 2045/CHM 2045L, MAC2311, or PHY2004/2048/2053 + associated lab)
- 2.5 Critical Tracking GPA
- ~~with a 2.5 critical-tracking GPA~~

Semester 5

- Complete ~~2 additional critical-tracking courses with a 2.5 critical-tracking GPA~~one 3000-level geology course (or Historical Geology course if not taken in Term 4)
- Complete one additional Related Coursework requirement (CHM 2045+ 2045L, MAC2311, or PHY2004/2048/2053 + associated lab)
- Maintain a 2.5 critical-tracking GPA
- 2.0 UF GPA required

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Recommended Semester Plan

Students are expected to complete the writing requirement while in the process of taking the courses below. Students are also expected to complete the general education international (GE-N) and diversity (GE-D) requirements concurrently with another general education requirement (typically GE-C, H or S).

Semester 1	Credits
IUF 1000 What is the Good Life (GE-H)	3
MAC 2311 Analytic Geometry and Calculus 1 (State Core GE-M)	4
Composition (State Core GE-C) (WR)	3
Foreign language	4-5
Total	14-15

Commented [MU7]: One critical tracking course removed from semester three and overall 5-semester critical tracking coursework reduced from 6 to 5 courses to enhance students ability to transfer into the major while still completing the degree in a timely fashion.

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Semester 2	Credits
CHM 2045 and 2045L General Chemistry 1 (3) and General Chemistry 1 Laboratory (1) (both State Core GE-P)	4
MAC 2312 Analytic Geometry and Calculus 2 (4) (GE-M) or PHY 2004 and 2004L Applied Physics 1 (3) and Applied Physics 1 Laboratory (1) (both GE-P)	4
Foreign language	3-5
Social and Behavioral Sciences (State Core GE-S)	3
Total	14-16

Semester 3	Credits
CHM 2046 and 2046L General Chemistry 2 (3) and General Chemistry 2 Laboratory (1) (both GE-P) or Approved science course (GE-P)	4
GLY 2010C Physical Geology (4) or Other introductory GLY course (both GE-P)	3-4
PHY 2005 and 2005L Applied Physics 2 (3) and Applied Physics 2 Laboratory (1) (both GE-P) or Approved science course (GE-P)	4
Social and Behavioral Sciences (GE-S)	3
Total	14-15

Semester 4	Credits

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GLY 2100C Historical Geology (GE-P) or GLY 3105C Evolution of Earth and Life	4
Biological Science (GE-B)	3
Humanities (State Core GE-H)	3
Mathematics (GE-M) or Elective if Calculus 2 taken in semester 2	3
Social and Behavioral Sciences (GE-S)	3
Total	16

Semester 5	Credits
GLY 3200C Principles of Mineralogy (GE-P)	4
~~Biological Science (GE-B)~~GLY 4750L Geologic Field Methods	~~3~~2
Electives (3000 level or above, not in major)	6
Humanities (GE-H)	3
Total	~~16~~15

Semester 6	Credits
GLY 4310C Igneous and Metamorphic Petrology (GE-P)	4

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Commented [MU8]: Moved to semester 5 because the course offering was moved from spring to fall

GLY 4400C Structural Geology and Tectonics	4
Biological Science (GE-B)~~GLY 4750L Geologic Field Methods~~	~~3~~2
~~Approved~~ Geology elective (any GLY course 3000 level or above)	2
Elective (3000 level or above, not in major)	3
Total	~~15~~16

Summer	Credits
GLY 4790C Summer Field Camp	6
Total	6

Semester 7	Credits
GLY 4552C Sedimentary Geology	3
Composition (GE-C)	3
Elective (3000 level or above, not in major)	3
Geology elective (any GLY 3000 level or higher)	3
Total	12

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Semester 8	Credits
GLY 3603C Paleontology (GE-P)	4
GLY 4905 Individual Work or elective	3
Elective (3000 level or above, not in major)	6
Total	13