

LETTER OF NOTIFICATION – 3

NEW OPTION, CONCENTRATION, EMPHASIS

(Maximum 18 semester credit hours of new theory courses and 6 credit hours of new practicum courses)

1. Institution submitting request: ARKANSAS TECH UNIVERSITY
2. Contact person/title: JEFF ROBERTSON, DEPT. HEAD OF PHYSICAL SCIENCES
3. Phone number/e-mail address: 479-968-0293 / jrobertson@atu.edu
4. Proposed effective date: JULY 2010
5. Title of degree program: B.S. GEOLOGY
6. CIP Code: 40.0601
7. Degree Code: 2660
8. Proposed **option**/concentration/emphasis name: PETROLEUM GEOLOGY
9. Reason for proposed action: *To serve an increased demand for the petroleum specialization due to Fayetteville Shale drilling activity and increased demand for geologists specializing in energy and resource exploration and development.*
10. New option/concentration/emphasis objective: *To develop in students, who wish to become employed in the oil and gas exploration and development positions, the knowledge base and skills that are required for successful employment and advancement in the industry.*
11. Provide the following:
 - a. Curriculum outline - List of required courses (*SEE ATTACHMENT A*)
 - b. New course descriptions: *No new courses will be required.*
 - c. Program goals and objectives (*SEE ATTACHMENT A*)
 - d. Expected student learning outcomes (*SEE ATTACHMENT A*)
12. Will the new option be offered via distance delivery? NO
13. Mode of delivery to be used: N/A
14. Explain in detail the distance delivery procedures to be used: N/A
15. Is the degree approved for distance delivery? N/A
16. List courses in option/concentration/emphasis. Include course descriptions for new courses. (*SEE ATTACHMENT A*)
17. Specify the amount of the additional costs required, the source of funds, and how funds will be used. *No new additional costs or funds will be required to implement this addition.*

President/Chancellor Approval Date: Dr. Robert Charles Brown – 11-19-09

Board of Trustees Notification Date: 11-19-09

Chief Academic Officer

Dr. John Watson

Date: 11-19-09

Attachment A: B.S. Geology, Petroleum Geology Option

11a, 16. List of courses required:

Freshman Year:

English Composition I, II (ENGL 1013, 1023)
Orientation to Physical Science (PHSC 1001)
Introduction to Biological Sciences (BIOL 1014)
College Algebra (MATH 1113)
Trigonometry (MATH 1203) or Higher-level math course
Physical Geology (GEOL 1014)
Historical Geology (GEOL 2024)
Regional Geography of the World (GEOG 2013)
Social Sciences Elective (3 semester hours)
Physical Activity (1 semester hour)

Sophomore Year :

American Government (POLS 2003)
General Chemistry I & II (CHEM 2124 & 2134)
Geology Seminar (GEOL 2001)
Mineralogy (GEOL 3014)
Petrology (GEOL 3164)
Invertebrate Paleontology (GEOL 3124) or Geomorphology (GEOL 3044)
Computer Applications for Technical Majors (COMS 1303)
Calculus I (MATH 2914)
Physical Activity (1 semester hour)

Junior Year :

Physical Principles I & II (PHYS 2014 & 2024)
Fundamentals of Organic Chemistry (CHEM 3254)
Geology Seminar (GEOL 3001)
Structural Geology (GEOL 3004)*
Geologic Field Techniques (GEOL 3023)*
Geomorphology (GEOL 3044) or Invertebrate Paleontology (GEOL 3124)
Computer Applications in Geology (GEOL 3174)*
Social Sciences Elective (3 semester hours)

Senior Year :

Fine Arts (3 semester hours)
Geology Seminar (GEOL 4001)
Subsurface Geology (GEOL 4034)*
Principles of Stratigraphy and Sedimentation (GEOL 4023)*
Humanities (3 semester hours)
General Electives (9 semester hours)

Ninth Semester (Summer term after Junior or Senior Year):

Field Geology (GEOL 4006) (Six-weeks in an approved field course)*

11c. Program Goals:

- Attract students to an employment opportunity that has shown dramatic growth in past few years
- Prepare students for employment as a development or exploration geologist for the oil and gas production industry
- Provide students, who wish to continue their education, with the foundation needed for

graduate studies in geology

11d. Learning Outcomes: Upon successful completion of the course the student will be able to do the following:

- Demonstrate an understanding of the origin, occurrence, and accumulation of oil and gas
- Explain and apply selected geophysical techniques utilized in the exploration for oil and gas
- Demonstrate an understanding of drilling and completing of oil and gas wells
- Explain the use of and interpret various types of geophysical well logging techniques
- Apply various techniques of geological mapping and illustration of subsurface stratigraphic and structural relationships