MIDLAND COLLEGE
SYLLABUS
PTRT 2371
PETROLEUM GEOLOGY FOR NON-GEOLOGIST
2-2

Course Description:
Earth systems, rocks and minerals, sedimentology and stratigraphy, geologic time and history of Earth, structural geology, folding and faulting, origin, nature, and occurrence of petroleum, formation names, and evolution of the Permian Basin. Also discussed is oil in the Permian Basin – trends, plays, and petroleum systems, surface and subsurface mapping methods, working with logs, sources of data, well-site operations, and formation evaluation. Students will explain geological concepts and processes as related to the exploration and exploitation of hydrocarbons; use a working knowledge of geology and associated terminology to effectively interact with engineers, geologists, landmen, and associated disciplines within the energy industry; utilize and evaluate surface and subsurface maps, well logs, well site and formation reservoir data.

Students MUST actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity will be reported as never attended and dropped from the course.

Text, References and Supplies: Classroom-Petroleum Extension Service: U.T./Austin, (2014). *Practical Petroleum Geology, 2nd Ed.*. (Austin, TX: University of Texas at Austin) ISBN: 0-88698-233-3
Lab- Waggoner, K. & Gawloski, J., (2014). *Physical Geology Lab Manual. 3rd Ed.* (Dubuque, IA: Kendall Hunt) ISBN 978-1-4652-4477-2

- Students **MUST** provide their own pencils. The use of ink pens will not be permitted for lab work. The instructor will provide advanced notice to students concerning other supplies needed for forthcoming lab sessions.
- Students must provide their own Scantrons® (Form 882-E) for lecture exams.

(The student may purchase these texts from the Midland College Bookstore or any retail or wholesale book outlet, including any online distributors.)

Course Goals/Objectives: Four (4) broad goals are identified. These are:

1. **Understanding the Earth System**. Important learning topics include mineralogy and chemistry of minerals; the rock cycle; identification of the 3 major rock types (igneous/volcanic, sedimentary, and metamorphic); the rock forming processes; Geologic Time and stratigraphy, and the structure of the Lithosphere.
2. **Understanding Surface Processes.** Major topics include the work of water, rivers, wind, and ice on the landscape.
3. **Understanding Internal Earth Processes and the External Effects.** Major topics are earthquakes, volcanoes, and mountain building.
4. **Understanding/exploiting/conserving Mineral and Energy Resources.**

Students may perform the following tasks in order to maintain safe lab and classroom spaces:

- Participate in shop and classroom maintenance which may include, but not limited to sweeping, mopping, disposing of trash, cleaning work benches, organize tools and equipment, organize tool room, disinfect classroom tables and chairs.
- Disassemble discontinued lab training vehicles or equipment for salvage.
- Repurpose lab vehicles to be utilized in lab assignments.
- Other course related tasks as assigned by instructor.

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Student Contributions and Course Policies:

1. Turn off all electronic devices such as cell phones, MP3 players, beepers and pagers unless (a) it is required for the job AND (b) the instructor is notified PRIOR to class that the device is necessary.
2. Spend at least 2 hours each week in out-of-class preparation; one hour outside the classroom for each hour of classroom instruction.
3. Attend both the lecture and lab portions of the course.

Competencies:

Reading: Understanding the material incorporated in the text used in this course will require the student to analyze and interpret various geological concepts.

Writing: Producing clear, grammatically correct and coherent one-page papers related to geologic products and processes.

Listening: The primary teaching methods used in this course are discussion and lecture. Understanding the oral presentation of material will require the student to analyze and interpret various geological concepts.

Critical Thinking: Critical thinking as exemplified by problem solving is inherent in the study of any geological discipline. Geological problems will be considered, discussed, and analyzed in this course.

Computer Literacy: Understanding computer technology by communication and accessing online course information, grades, discussion boards, and homework submissions is necessary.

Evaluation of Students: The final course grade will be determined on the basis of 75% from the lecture portion and 25% from the laboratory portion. The grade will be based on a weighted average of the following categories:

Laboratory Assignments:	30%
Laboratory Exam:	20%
Lecture Chapter Quizzes:	30%
Comprehensive Final Exam:	20%
TOTAL:	100%

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*An additional 10 points may be earned for attending 100% of both the lecture and laboratory portions of the course.

90 and above	A
80-89	B
70-79	C
60-69	D
59 and below	F

Course Schedule: This class meets for 3 lecture hours.

SCANS Information: SCANS skills are taught and/or reinforced in energy/petroleum courses. The student must locate, read, interpret and understand instruction information and direction materials. The participant must communicate thoughts, ideas and information through verbal and written mediums. Practical arithmetic and mathematics will apply continually throughout energy/petroleum training. Listening, interpreting, and responding to verbal communications and instructions as well as speaking in response to questioning will be a daily involvement. Thinking, reasoning, visualizing and problem solving are required assets to the energy/petroleum field. The student/participant must display responsibility, self-management and honesty.

Administrative Information:

Curt Pervier, Dean of Applied Technology

Lisa Hays, Division Secretary
Office: Rm 143 TC
Phone: (432) 685-4676
Fax: (432) 685-6472

Students should feel free to contact the instructor at any time. Appointments are encouraged for advising and planning the most appropriate or beneficial course work.

*Syllabus subject to change as deemed necessary by the instructor to ensure learning objectives and course goals are met.

Non-Discrimination Statement
Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individual has been designated to handle inquiries regarding the non-discrimination policies:
Tana Baker
Title IX Coordinator/Compliance Officer
3600 N. Garfield, SSC 131
Midland, Texas 79705
(432) 685-4781
tbaker@midland.edu
For further information on notice of non-discrimination, visit the ED.gov Office of Civil Rights website, or call 1 (800) 421-3481.

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Americans with Disabilities Act (ADA) Statement:
Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must visit www.midland.edu/accommodation and complete the Application for Accommodation Services located under the Apply for Accommodations tab. Services or accommodations are not automatic, each student must apply and be approved to receive them. All documentation submitted will be reviewed and a "Notice of Accommodations" letter will be sent to instructors outlining any reasonable accommodations.