INSTRUCTOR
Dr. Valeriu Murgulet
Email: valeriu.murgulet@tamucc.edu

LECTURES: MW 03:30 – 04:45 PM; EN-108

LABS: W 05:00-06:50; CS-226

OFFICE HOURS: TBA and/or by appointment

COURSE DESCRIPTION
Basic concepts of petroleum geology and techniques used in the exploration and production of hydrocarbon systems. Lectures and lab exercises will cover principles of stratigraphy, sedimentology, hydrocarbon generation, hydrocarbon-trapping mechanisms, reservoir characterization, seismic interpretation, well-log interpretation, and geologic risk analysis. Prerequisites: GEOL 4411.

COURSE OBJECTIVES
This course will give students the skills to:
1. Identify and describe the major components of petroleum systems.
2. Understand generation and migration of petroleum and the formation of traps and seals.
3. Understand sedimentary basin and tectonic settings associated with petroleum systems.
4. Acquire the concepts and methods in petroleum exploration and development.

TEXTBOOK

COURSE GRADING
Two Midterm Exams: 20% each
Final Exam (Comprehensive): 40%
Labs (assignments and participation) 40%

GRADING POLICY
A: 90-100%; B: 80-89.9%; C: 70-79.9%; D: 60-69.9%; F: 0-59.9%

ATTENDANCE POLICY
All students are expected to attend class. Poor attendance will result in missed lecture material and may reflect in less than desired class performance. It is the students’ responsibility to acquire class notes from peers if class is missed. Lab attendance is mandatory. One excused absence (with documentation) will be allowed but will result
in the removal of that grade from the average. Unexcused absences result in a zero. It is the students’ responsibility to acquire the missed material from their peers.

EXAMS
Each student is expected to take all exams at the designated time and place. Students who miss an exam will receive a grade of zero for that exam. Make-up exams will be given only on presentation of approved medical excuse, or by pre-excused permission of the instructor. No exceptions! One and only one make-up exam will be given after each regularly scheduled exam. Time and place for the make-up exam will be arranged at the next regularly scheduled class following each exam. The format of make-up exams may differ from that of the regular exam. All exams are closed book, however, the use of a calculator is permitted. Students who want to appeal a grade should do it in writing, at latest one day after the exam was returned. Please note the date of the final exam. No final exam will be given at an earlier date. Disability accommodations must be documented and approved by the Office of Disability Services.

NOTICE TO STUDENTS WITH DISABILITIES AND VETERANS
Texas A&M University-Corpus Christi complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. If you suspect that you may have a disability (physical impairment, learning disability, psychiatric disability, etc.), please contact the Services for Students with Disabilities Office, located in Driftwood 101, at 825-5816. If you need disability accommodations in this class, please see me as soon as possible.

ACADEMIC ADVISING
The College of Science and Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College's Academic Advising Center is located in the Center for Instruction, room 350, and can be reached at 825-6094.

ACADEMIC INTEGRITY
Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. The use of cell phones, pagers, CD players, headphones and similar electronic devices is not allowed in class. Keep these devices in your bags, not on the tables. You may be asked to refrain from using a laptop in class. *Cheating will not be tolerated!* Please be advised that the penalty for cheating is a failing grade and possible further disciplinary action by the university.
The university policy of scholastic dishonesty will be followed in the event of academic misconduct. Academic misconduct includes all acts of dishonesty in any academically related matter and any knowing or intentional help or attempt to help, or conspiracy to help, another student.

*TENTATIVE LECTURE AND LAB SCHEDULE*

**Week 1**
Introduction. The context of petroleum geology.
LAB: No Lab

**Week 2**
The physical and chemical properties of petroleum.
LAB: TBA

**Week 3**
The subsurface environment.
LAB: TBA

**Week 4**
*Generation and migration of petroleum.* Origin of petroleum. Formation of kerogen.
LAB: TBA

**Week 5**
*Generation and migration of petroleum.* Petroleum migration. The petroleum system.
LAB: TBA

**Week 6**
LAB: TBA

**Week 7**
LAB: TBA

**Week 8**
Traps and seals. Distribution of petroleum within a trap. Seals and cap rocks. Structural traps.
LAB: TBA

**Week 9**
LAB: TBA
**Week 10**
Sedimentary basins and petroleum systems.
LAB: TBA

**Week 11**
Nonconventional petroleum resources.
LAB: TBA

**Week 12**
**Methods of exploration.** Well drilling and completion. Formation evaluation.
LAB: TBA

**Week 13**
**Methods of exploration.** Geophysical methods of exploration. Borehole geophysics and 4D seismic.
LAB: TBA

**Week 14**
**Methods of exploration.** Subsurface geology. Remote sensing.
LAB: TBA

**Week 15**
Conclusions.
LAB: TBA

**READING:** Reading material will be assigned at the end of each lecture session.
*NOTE:* The syllabus is subject to change at the instructor’s discretion.