COURSE SYLLABUS
PNGE 634
PRESSURE TRANSIENT ANALYSIS

COURSE INTRODUCTION
- Credit Hours: 3
- Prerequisite Courses: PNGE 434
- Method of Instruction: Lecture
- Instructor: Kashy Aminian, Ph.D., Professor
- Class Meets: 1 Sessions/week, 150 minutes per Session

COURSE DESCRIPTION: Methods of analysis of pressure transient data obtained from well testing for the purpose of determining in-situ reservoir conditions including porosity, lateral extent, average reservoir pressure, and formation permeability.

LEARNER SUPPORT
- Instructor Office Location: 325C MRB
- Office Hours: 10-11:50 M-T-W-Th.
- Instructor Email: khaminian@mix.wvu.edu
- Phone: 304.293.3964
- Method of Making Appointment: Email

INSTRUCTIONAL MATERIALS
- REQUIRED INSTRUCTIONAL MATERIALS:
  Electronic copies of the course notes will be posted on eCampus.
- OPTIONAL INSTRUCTIONAL MATERIALS:

COURSE LEARNING OBJECTIVES
- To learn the fundamentals of the Pressure Transient Analysis
- To learn the computational methods for Pressure Transient Analysis
- To Interpret Well Test Data From Different Types of Reservoirs.
- To Determine Reservoir Characteristics Using Well Test Data in Conjunction with Other Information.

COURSE ACTIVITIES
1. What is a Well Test? What can be learned from a Well Test?
2. Pressure Transient Analysis Fundamentals
3. General Methodology for Well Test Interpretation
4. Interpretation of the Well Test Data from the Gas Wells
5. Interpretation of the Well Test Data from Hydraulically Fractured Wells
6. Interpretation of the Well Test Data from Heterogeneous Reservoirs
7. Interpretation of the Well Test Data from Horizontal Wells
8. Interpretation of the Well Test Data from Multiwell Well Tests
**Assessment**

- **Major Assignments/Assessments:**
  Attendance, Homework, and Exams

- **Grading Criteria:**
  - Attendance is required in the class and the lab.
  - Each absence in the class will result in 10% reduction in Attendance Grade.
  - Homework must be prepared in MS-Word and/or Excel and be submitted online.
  - Homework must be prepared by each student separately and must include Homework Number, Name, The Date, Solution Method, and the Results.
  - Two Exams, Mid-term and the Final, will be given. Exam are open-book.

- **Weight of Course Points:**
  Attendance 10%, Homework 40%, and Exams 50%

- **Expected Timeline:**
  One Homework each week (5 before the mid-term)
  Mid-term Exam: 7th week of Class

- **Response Time and Feedback Plan:**
  Homework Solutions Grade will be posted on eCampus within one week of the due date.
  The Mid-term Exam Grade will be posted on eCampus within one week of the exam.

**Final Grading Scale:**
A>90, B: 75-89, C: 61-74, D: 50-60, F<50

**Course and Institutional Policies**

- **Attendance Policy:**
  Attendance is required in the class.
  Each absence in the class will result in 10% reduction in Attendance Score. Students who are absent from the class for any reason are responsible for all missed work.
  No makeup exam will be given for students who are absent during the exams.

- **Late Assignment and Missed Exam Policy:**
  The absence or missed work can be excused for medical reasons (document is necessary).
  Prior approval must be obtained for the absence or the missed work due to non-medical reasons.
  Makeup exam will be given for students with prior approval or for medical reasons.

- **Institutional Policies:** Students are responsible for reviewing Policies on:
  Inclusivity, Academic Integrity, Incompletes, Sale of Course Materials, Sexual Misconduct, Adverse Weather, Student Evaluation of Instruction, and Days of Special Concern/Religious Holiday Statements.