

Course Code:	PTRL6007	Term:	T2, 2020	Level:	PG	Units/Credits	6 UOC
Course Name:							

Course Convenor:							
Contact Details	School of Minerals and Energy Resources Engineering TETB 219	EMAIL:	furqan.hussain@unsw.edu.au				
		Phone:					
Contact times							

Recovery factors, mobilisation, displacement and sweep efficiencies. Fractional flow analysis and displacement efficiency. Heterogeneity and gravity segregation and their effect on recovery. Water and gas coning. Unsteady-state field water influx calculations. Determination of aquifer parameters from history matching. Pseudo relative permeability and vertical equilibrium. Decline curve analysis.

Course completion requires submission of all assessment items; failure to submit all assessment items can result in the award of an Unsatisfactory Failure (UF) grade for the Course.

Prerequisite: PTRL6001

To pass this course it is expected that you will attend at least 80% of tutorials and lectures. *If your attendance is below 80% you will not be admitted to the final exam.* Attendance will be recorded when applicable. Normally, there is no make-up work for poor attendance. If you have misadventure or ill-health, please contact your course coordinator soon as possible. The attendance requirement is not meant to be punitive. It is included because participation is an important part of achieving the course outcomes.

The aim of this course is to introduce fluid flow and production mechanisms in petroleum reservoirs.

At the conclusion of this course, students should be able to:

1. Identify fundamental mechanisms responsible for fluid displacement, drainage, equilibrium or distribution and their measurement techniques.
2. Calculate pseudo-functions to analyse layered reservoirs.
3. Apply natural water flux models to calculate oil recovery in water drive reservoir.
4. Analyse well decline rates and their role in field production forecasting and reserves estimation.
5. Predict oil recovery from immiscible displacement processes through case study analysis.

Support material for this course including, whenever available, copies of lecture notes, recommended readings, etc. can be found on Moodle.

The lecture note may be viewed and downloaded from the UNSW-Moodle <http://moodle.telt.unsw.edu.au/>.



Followings are the recommended books for this course.

- *Fundamentals of Reservoir Engineering*, Dake (1978).
- *The Practice of Reservoir Engineering*, Dake (1994).
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Links to websites etc.

The University and the Faculty provide a wide range of support services for students, including:

- UNSW Learning Centre (<http://www.lc.unsw.edu.au>)
- Counselling support - <http://www.counselling.unsw.edu.au>
- Library training and support services - <http://www.library.unsw.edu.au/>
- OnePetro – (<http://www.onepetro.org>)

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1. Introduction
 2. Wettability, capillary pressure and relative permeability
 3. Recovery factors
 4. Pseudo-functions
 5. Water and gas coning
 6. Natural water influx
 7. Decline curve analysis




At times, the School or your course convenors may need to contact you about your course or your enrolment. Your course convenors will use the email function within Moodle or we will contact you on your @student.unsw.edu.au email address.

We understand that you may have an existing email account and would prefer for your UNSW emails to be redirected to your preferred account. Please see these instructions on how to redirect your UNSW emails: <https://www.it.unsw.edu.au/students/email/index.html>

We are always ready to assist you with your inquiries. To ensure your question is directed to the correct person, please use the email address below for:

Enrolment or other admin questions regarding your program:
<https://unswinsight.microsoftcrmportals.com/web-forms/>

Course inquiries: these should be directed to the Course Convenor.



The School has developed a guideline to help you when submitting a course assignment.

We encourage you to retain a copy of every assignment submitted

The Student Equity and Disabilities Unit (SEADU) aims to provide all students with support and professional advice when circumstances may prevent students from achieving a successful university education. Take a look at their webpage: www.studentequity.unsw.edu.au/

Your lecturer and the University will expect your submitted assignments are truly your own work. UNSW has very clear guidelines on what plagiarism is and how to avoid it. Plagiarism is using the words or ideas of others and presenting them as your own. Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. The University has adopted an educative approach to plagiarism and has developed a range of resources to support students. All the details on plagiarism, including some useful resources, can be found at www.student.unsw.edu.au/plagiarism.

All Mining Engineering students are required to complete a student declaration for academic integrity which is outlined in the assignment cover sheets. By signing this declaration, you agree that your work is your own original work.

If you need some additional support with your writing skills, please contact the Learning Centre or view some of the resources on their website: www.lc.unsw.edu.au/. The Learning Centre is designed to help you improve your academic writing and communication skills. Some students use the Centre services because they are finding their assignments a challenge, others because they want to improve an already successful academic performance.

At the end of each course, all students will have the opportunity to complete a course evaluation form. These anonymous surveys help us understand your views of the course, your lecturers and the course materials. We are continuously improving our courses based on student feedback, and your perspective is valuable.

Feedback is given via <https://student.unsw.edu.au/myexperience> and you will be notified when this is available for you to complete.

We also encourage all students to share any feedback they have any time during the course – if you have a concern, please contact us immediately.

