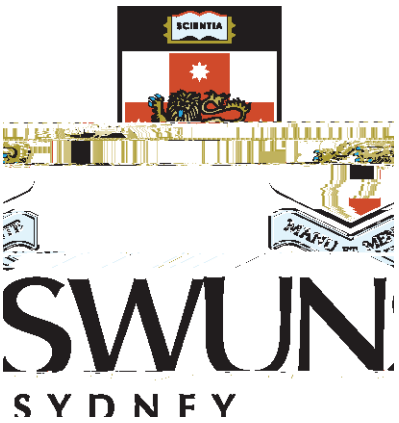

Faculty of Engineering

School of Minerals and Energy Resources Engineering

Undergraduate Course Outline

PTRL3030

Reservoir Characterisation

Prof Christoph Arns

CONTENTS

1. Demonstrate knowledge and skills needed to cross-correlate petrophysical properties.
2. Design and populate continuum 3D grids for the purpose of reservoir simulation using geostatistical interpolation techniques (Kriging) and stochastic simulation.
3. Upscale simulation grids for real and categorical variables.

3. REFERENCE RESOURCES

3.1. Reference Materials

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/.

3.2. Recommended Materials

Followings are the recommended books for this course.

J.L. Jensen, L.W. Lake, P.W.M. Corbett, D.J. Goggin, *Statistics for Petroleum Engineers and*

4. COURSE CONTENT AND LEARNING ACTIVITIES

4.1. Course content

1. Introduction to Reservoir Characterisation
2. Grids and property modelling
3. Basic statistics and data quality control
4. Petrophysical cross-correlations
5. Mapping & contouring / spatial interpolation
6. Geostatistical estimation (Kriging)
7. Stochastic simulation
8. Upscaling

4.2. Learning Activities Summary v8.86 1.5148.12 75Qq261.96C/262 2 6

5. COURSE ASSESSMENT

5.1. Assessment Summary

Assessment task	Due date / week	Weight	Assessment	Learning outcomes assessed
1	05 June 12 June 19 June 26 June 0			

6. ASSESSMENT CRITERIA

The assessment criteria provides a framework for you to assess your own work before formally submitting major assignments to your course convenor. Your course convenor will be using this framework to assess your work and as a way to assess whether you have met the listed learning outcomes and the graduate attributes for your program. We ask that you don't use the assessment criteria guidelines as a checklist, but as a tool to assess the quality of your work. Your course convenor will also be looking at the quality, creativity and the presentation of your written assignment as they review the framework. Rubrics, wherever applicable, will be provided at the time of the assignment release.

7. STUDYING A UG COURSE IN UNSW MINERALS AND ENERGY RESOURCES ENGINEERING

7.1. How We Contact You

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

7.2. How You Can Contact Us

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 should be directed to the Course Convenor.

7.3. Computing Resources and Internet Access Requirements

UNSW Minerals and Energy Resources Engineering provides blended learning using the on-line Moodle LMS (Learning Management System).

It is essential that you have access to a PC or notebook computer. Mobile devices such as smart phones and tablets may compliment learning, but access to a PC or notebook computer is also required. Note that some specialist engineering software is not available for Mac computers.

Mining Engineering Students: OMB G48
Petroleum Engineering Students: TETB

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7.4. Accessing Course Materials Through Moodle

Course outlines, support materials are uploaded to Moodle, the university standard Learning Management System (**LMS**). In addition, on-line assignment submissions are made using the assignment dropbox facility provided in Moodle. All enrolled students are automatically included in Moodle for each course. To access these documents and other course resources, please visit: www.moodle.telt.unsw.edu.au

7.5. Assignment Submissions

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 for assessment for your own record either in hardcopy or electronic form.

All assessments must have an assessment cover sheet attached.

7.6. Late Submission of an Assignment

Full marks for an assignment are only possible when an assignment is received by markeived

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.