UNIVERSITY of NICOSIA

Course Code	Course Title	ECTS Credits
OGEE-492	Capstone Design Project	6
Department	**Semester**	**Prerequisites**
Engineering	Fall, Spring	Approval by the Department
Type of Course	**Field**	**Language of Instruction**
Required	Oil & Gas Engineering	English
Level of Course	**Year of Study**	**Lecturer**
1st Cycle	4th	Ms Natalia Kovalchuk
Mode of Delivery	**Work Placement**	**Co-requisites**
Face-to-face	N/A	None

Objectives of the Course:

The main objectives of the course are to:
- Teach students important information retrieval, research techniques and practices;
- Promote team work in a team environment;
- Observe all stages of a field development plan (FDP);
- Instruct students on how to build a static model in Petrel software, upscale it and perform simulations in ECLIPSE;
- Introduce students to uncertainty evaluation of reservoir parameters and model validation;
- Help student appreciate economics calculations of the field development plan;
- Promote engineering ethics and respect to the environment and society;
- Instruct students how to write proper reports and how to present their work in front of their colleagues;
- Teach students how to properly plan their activities in order to successfully achieve their design goals and how to meet their own deadlines.

Learning Outcomes:

Upon completion of the course students are expected to:
- Use research skills in an engineering topic in order to device a successful design for their project idea;
- Become good team players and collaborate seamlessly with others;
- Be able to synthesise geological and geophysical data and come-up with drilling strategies for production and secondary extraction;
- Become familiar with the merits and challenges from software use and trustworthiness of generated data;
- Be able to estimate expenditures and value generation as part of a field development project;
- Identify important principles of ethics in engineering practices;
- Write good technical reports and deliver effective presentations;

- Plan, organise and schedule project activities in order to successfully complete an engineering project.

Course Contents:

- Utilise citation tools, databases (OnePetro), research journals, search engines, magazines, theses, etc.;
- Demonstrate team work and collaboration with others toward the successful completion of a project;
- Understand the limitations and advantages of reservoir modelling, reserves estimation, transport processes and data visualisation;
- Examine strategies for developing an actual hydrocarbons field;
- Learn advanced computational and simulation tools, namely, Petrel, ECLIPSE and data visualisation;
- Investigate uncertainties of reservoir parameters and model verification methods;
- Calculate economic aspects of a field development project;
- Consider environmental and societal issues of hydrocarbon field development;
- Write final report and deliver presentation of field development plan findings.

Learning Activities and Teaching Methods:

Lectures/seminars, software tutorials and project supervision.

Assessment Methods:

Progress reports, presentation, final report.

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
N. Kovalchuk	In-class notes on Petrel and ECLIPSE		2016	
W. Strunk, E. B. White, R. Angell	The Elements of Style	Longman, 4th Edition	1999	978-0205313426

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Satter, A. and Iqbal G. M.	Reservoir engineering: the Fundamentals, Simulation, and Management of Conventional and Unconventional Recoveries	Elsevier; GPP	2016	978-0-12-800219-3
Michael J. Pyrcz and Clayton V. Deutsch	Geostatistical Reservoir Modeling	Oxford University Press	2014	978-0199731442
Frank R. Kschichang	Giving a Talk	University of Toronto	2000	