Minor in Petroleum Data Analytics

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Program Advisor: Serveh Kamrava

The purpose of this minor is to enhance data analysis skills and to show potential opportunities of data, give students the skill set to manage and analyze the data and use their knowledge of petroleum engineering to make petroleum resource acquisition more economical, safe, and environmentally sound.

Objectives:
By the end of the minor program, students will be able to:
• Collect and pre-process typical petroleum data and to rearrange for use in analysis
• Apply standard probability and statistics methodology to various data constructs
• Analyze data to determine which various regression and prediction techniques would be applicable and to use that analysis process
• To build system algorithms for data information insight
• Use various data analytics analysis and visualization software for the petroleum industry

Minor Requirements

To obtain a Petroleum Data Analytics Minor, students must take a minimum of 18 credits related to Data Analytics. Seven courses (18 credits) are required, which includes one 3-credit course from a list of technical electives. Petroleum Engineering students can use any of their free elective classes and take PEGN438 as part of the normal PEGN credit requirements. See Mines minor requirements here. Students should begin their classes for this minor by the fall semester of their junior year in order to graduate in four years.

Prerequisite classes

The following classes are required before the students can take Petroleum Data Analytics Minor:
• MATH112. CALCULUS FOR SCIENTISTS AND ENGINEERS II or

• MATH122. CALCULUS FOR SCIENTISTS AND ENGINEERS II HONORS

• EBGN201. PRINCIPLES OF ECONOMICS

Required Courses (18 credits)

Required Courses		
MATH201	INTRODUCTION TO STATISTICS	3.0
CSCI128	COMPUTER SCIENCE FOR STEM	3.0
CSCI303	INTRODUCTION TO DATA SCIENCE	3.0
PEGN440	INTRODUCTION TO THE DIGITAL OILFIELD	3.0
Required PE Major Courses		
PEGN438	PETROLEUM DATA ANALYTICS	3.0
Choose one Technical Elective - All 3-credit courses		
EBGN461	STOCHASTIC MODELS IN MANAGEMENT SCIENCE	3.0
GEGN475	APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS	3.0
MATH334	INTRODUCTION TO PROBABILITY	3.0

Primary Contact

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