

# GEOL 6379: Applied Biostratigraphy

## Syllabus

This course is designed to develop an understanding of the methods used in determining biostratigraphic models of sedimentary sequences with various biostratigraphic and geochronologic methods. Additional methods and algorithms are discussed to interpret paleoenvironmental settings of sedimentary sequences.

Dr. Don Van Nieuwenhuise

August 26<sup>th</sup> Friday 1:00 – 5:00 PM

Lecture 1 Introductions and Overview

Lecture 2 Biostratigraphic Data

Reading Exercise: Paleoenvironments

August 27<sup>th</sup> Saturday 8:00AM – 5:00 PM

Lecture 3 Bioevents

Lecture 4 The Fossil Record and Graphic Correlation Exercise

Lectures 5 a-e Fossil Groups

Lecture 6 Stratigraphy

September 2<sup>nd</sup> Friday 1:00 – 5:00 PM

Test for Badge 1 of Applied Biostratigraphy

Lecture 7 Time Scales

Exercise and Review of GC Basics

September 3<sup>rd</sup> Saturday 8:00AM – 5:00 PM

Lecture 8 Graphic Correlation and Composite Standards

Lecture 9 Graphic Correlation Applications

Lecture 10 Graphic Correlation Integration

Lecture 11 Paleobathymetry with Exercise

September 7<sup>th</sup> Wednesday 6:00 to 7:30PM

Test for Badge 2 of Applied Biostratigraphy

Dr. Peter Copeland

September 9<sup>th</sup> Friday 1:00 – 5:00 PM

Lecture 1 Introduction to Geochronology

Lecture 2 Isochronology

**September 10<sup>th</sup> Saturday 8:00AM – 5:00 PM**

Lecture 3 Uranium-Lead and Thorium-Lead Dating Systems

Lecture 4 Potassium-Argon System

Lecture 5 Fission Track Dating

Lecture 6 U-Th-Sm/Helium Dating

**September 16<sup>th</sup> Friday 1:00 – 5:00 PM**

Lecture 7 Detrital Thermochronology

**September 21<sup>st</sup> Wednesday 6:00 to 7:30PM**

Chronostratigraphy Test, Badge 3