## Anthropology/Biology 3138: 2013 Introduction to DNA Molecular Methods

Instructor: Carney Matheson

Tutors: Felicia Joseph <u>fjoseph@lakeheadu.ca</u>

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Time & Place: Lecture Wednesday 9:30 pm – 11:30 pm

Laboratory Wednesday 11:30 pm – 1:30 pm

Marks & Grading: Lab Reports 50% (5 laboratory write ups worth 10% each)

Midterm Exam 15% Final Exam 20% Assignment 15%

**Schedule:** 

September 11: Lecture 1 Basic Techniques

Laboratory Laboratory Safety and

September 18: Lecture 2 The Nature of DNA

Laboratory 1 Basic Laboratory Techniques

September 25: Lecture 3 Extraction Chemistry

Laboratory 2 The Nature of DNA

October 2: Lecture 4 Purification Chemistry

Laboratory 3 Extraction Methodologies

October 9: Lecture 5 DNA Detection and Quantification

Laboratory 3 Extraction Methodologies

October 16: Lecture 6 History of the Polymerase Chain Reaction

Laboratory 3 Extraction Methodologies

October 23: Midterm

Assignment Handout

October 30: Lecture 7 Electrophoresis

Laboratory 4 PCR Amplification

November 6: Lecture 8 DNA Sequencing

Laboratory 4 PCR Amplification

November 13: Lecture 9 DNA Data Analysis

Laboratory 5 DNA Sequence Analysis

November 20: Lecture 10 Various other techniques

Laboratory 5 Sequence Alignment

November 27: Lab and Final Exam