Anthropology/Biology 3138: 2015 Introduction to DNA Molecular Methods

Instructor: Carney Matheson

Office Hours: BB2001E (Braun Building) 343 8743 or cmatheso@lakeheadu.ca

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 16: Lecture 1 Basic Techniques

Laboratory Laboratory Safety and

September 23: Lecture 2 The Nature of DNA

Laboratory 1 Basic Laboratory Techniques

September 30: Lecture 3 Extraction Chemistry

Laboratory 2 The Nature of DNA

October 7: Lecture 4 Purification Chemistry

Laboratory 3 Extraction Methodologies

October 14: Lecture 5 DNA Detection and Quantification

Laboratory 3 Extraction Methodologies

October 21: Lecture 6 History of the Polymerase Chain Reaction

Laboratory 3 Extraction Methodologies

October 28: Midterm

November 4: Lecture 7 Electrophoresis

Laboratory 4 PCR Amplification

November 11: Lecture 8 DNA Sequencing

Laboratory 4 PCR Amplification

November 18: Lecture 9 DNA Data Analysis

Laboratory 5 DNA Sequence Analysis

November 25: Lecture 10 Various other techniques

Laboratory 5 Sequence Alignment

December 2: Lab and Final Exam