

Practical Applications of Sequence Analysis

Course Information

DATES: Tuesday April 3, 2001 - Tuesday June 5, 2001

TIMES: Tuesdays: 3:00 - 4:30

Thursdays: 1:00 - 2:30

LOCATION: Bevill Biomedical Research Building Lecture Hall (BBRB 170)
845 19th Street South

INSTRUCTOR: Elliot Lefkowitz, Ph.D., Department of Microbiology

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WEB SITE: <http://genome.microbio.uab.edu/MIC753/>

GCG DOCS: <http://genome.microbio.uab.edu/GCG/GCG10/gcgmanual.html>
(See Elliot for the username and password for access)

REQUIRED Hardware and Software

- **A computer with access to the Internet**
- **Communication Software**
 - A World-Wide-Web Browser such as Netscape (v 4.6+) or Internet Explorer (v5.0+)
 - A VT100 and graphics terminal emulator program
 - An XWindows emulator program
- **Macintosh**
 - VT100/Graphics: NCSA Telnet (freeware)
 - VT100/Graphics: VersaTerm Pro (Synergy Software \$195)
 - XWindows: eXodus (Powerlan Software \$149)
- **Windows PC**
 - VT100/Graphics: TeraTerm Pro (freeware)
 - VT100/Graphics: SmarTerm Office (Esker Software)
 - XWindows: X-Win32 (Starnet Communications Corporation \$149; \$60 Student license)
 - XWindows: WebTerm X (Powerlan Software \$149)

The GCG Server: analyze

This is the UNIX Computer of the Molecular and Genetic Bioinformatics Facility at UAB that runs the Genetics Computer Group (GCG) software and maintains the sequence databases.

- **SYSTEM MANAGER:** Elliot Lefkowitz
- **INTERNET ADDRESS:** gcg.genome.uab.edu (or analyze.genome.uab.edu)

Computer Access

All registered students will be provided with computer accounts on analyze. These accounts will be active until completion of the course requirements, and are provided without charge. Those not registered can obtain computer accounts by following instructions on the following web page:

<http://genome.microbio.uab.edu/GCG/GCGatUAB.htm>

(See Elliot for a username and password to access this page.)

Reference Material

General Sequence Analysis and Bioinformatics

GCG Documentation Version 10.1 (UNIX)

User's Guide

Program Manual

A Practical Guide to the Analysis of Genes and Proteins (Strongly Recommended)

Andreas Baxevanis(Editor), B.F.Francis Ouellette(Editor).

John Wiley & Sons, 1998

Sequence, Structure, and Databanks : A Practical Approach

Des Higgins (Editor), Willie Taylor (Editor).

Oxford Univ Press, 2000

Sequence Analysis Primer

Michael Gribskov and John Devereux (eds.)

Groves Press, 1991

Sequence Analysis in Molecular Biology

Gunnar von Heijne

Academic Press, 1987

Genomics

Cracking the Genome : Inside the Race to Unlock Human DNA

Kevin Davies

Free Press, 2001

Genome

Matt Ridley

Harpercollins, 2000

Phylogenetic Analysis

Molecular Systematics

David M. Hillis and Craig Moritz (eds.)
Sinauer Associates, 1990

MacClade; Analysis of Phylogeny and Character Evolution

Wayne P. Maddison and David R. Maddison
Program and Manual (Macintosh)
Sinauer Associates, 1992

PAUP*; Phylogenetic Analysis Using Parsimony

David L. Swofford
Program and Manual, version 4.0 (Macintosh; UNIX; DOS)
Sinauer Associates

Molecular Evolution: Computer Analysis of Protein and Nucleic Acid Sequences

Methods in Enzymology, Vol. 183, Doolittle, R.F. (ed.)
Academic Press, 1990