Established in 1988 as a national resource for molecular biology information, NCBI creates public databases, conducts research in computational biology, develops software tools for analyzing genome data, and disseminates biomedical information - all for the better understanding of molecular processes affecting human health and disease. Accessible from the NCBI home page is the Education Resources site, which provides a comprehensive repository of education resources available from the NCBI, including training opportunities and online tutorials on the NCBI's services:


**Training Opportunities**

NCBI’s A Field Guide to GenBank® and NCBI Molecular Biology Resources, a lecture and hands-on computer workshop on GenBank and related databases covering effective use of the Entrez databases and search service, the BLAST® similarity search engine, genome data and related resources. Topics covered in the course include:

- GenBank Database: description and scope
- NCBI Derivative Databases: RefSeqs
- Database Searching using Entrez
- NCBI Structures Database
- Similarity Searching using NCBI BLAST
- Genomic Resources at NCBI

The course is offered at the National Library of Medicine (NLM) on the NIH campus in Bethesda, Maryland, in addition to other domestic and international locations.

In addition to the traditional Field Guide course, other types of training opportunities are available, such as the NCBI MiniCourses. NCBI bioinformatics mini-courses are either problem based, such as “Identification of Disease Genes” or NCBI resource based such as “BLAST Quick Start”. The courses are two hours in length with the first hour devoted to an overview that is followed by a one hour hands-on session. Although, primarily given on the NIH campus, NCBI is beginning to offer the mini-courses at extramural institutions as well. The full listing of the mini-courses covers:

- Making Sense of DNA and Protein Sequences
- LocusLink QuickStart
- Unmasking Genes in the Human Genome
- Structural Analysis QuickStart
- Identification of Disease Genes
- Map Viewer QuickStart
- Correlating Disease Genes and Phenotypes
- GenBank QuickStart
- BLAST QuickStart
- GenBank and PubMed Searching

Librarians interested in learning an overview of search systems available at NCBI can attend the three-day Introduction to Molecular Biology and Information Resources course. This course reviews many NCBI services and search systems by combining lectures, demonstrations, and hands-on experience.

For more information on the NCBI Field Guide and other teaching resources, please contact the NCBI Help desk at info@ncbi.nlm.nih.gov.
Online Tutorials, Text-based learning tools and a Science Primer

Basic understanding of the fundamentals of molecular biology is essential to utilizing the available resources offered at the NCBI. Thus, for persons interested in gaining primary knowledge of the science behind the bioinformatics, the NCBI has developed the Science Primer:


Online tutorials are also available to act as virtual guides in using popular NCBI services. They are accessible from the Education home page as well as from specific service Websites.

External educational resources dedicated to biological and genetic information are available from other NIH institutes, such as MedlinePlus, the Visible Human Project and the Human Genome Project. These web-based services can be explored from the NIH home page: www.nih.gov.