Course Outline

RESEARCH STRATEGIES

I. Define a Topic in Biological Sciences

1. Search for ideas
2. Narrow or broaden your topic
3. State your topic as a question
4. Identify the type of information needed

II. Gather Background Information

1. Encyclopedias
2. Dictionaries
3. Almanacs and Yearbooks
4. Handbooks and Bibliographies

III. Search the databases for journal articles and conference proceedings

1. What are databases?

    a. Structure
    b. Type
        1. Bibliographic
        2. Full-Text
        3. Numeric
        4. Image
    c. Coverage
        1. Subject area
        2. Type of publication
    d. Attributes

2. Searching Databases
    a. Search strategies
    b. Biological Sciences databases
        Biosis Previews
        MIT Press
        Nature
        Nature Biotechnology
        Nature Cell Biology
        Nature Genetics
        Nature Immunology

Nature Medicine
Nature Neuroscience
Nature Structural Biology
ScienceDirect
SpringerLink
Wiley Interscience
WilsonWeb-Applied Science and Technology

3. Locating print and electronic journal articles

IV. Search TSU Online Catalog for Print and Electronic Books and other resources

1. How to use the TSU Online Catalog
   a. Keyword search
   b. Subject search
   c. Author search
   d. Title search
   e. Search commands

2. Location of materials
3. Library of Congress Classification System
4. What is a call number?
5. How to read a call number
6. Electronic books

V. Explore Internet Resources

1. Structure of the Internet

2. Search tools for the Internet
   a. Google
   b. AllTheWeb.com
   c. Yahoo
   d. Search Engine Tips

3. Types of web sites

4. Categories of information on the Internet
   a. Free web sites with valuable information
   b. Current events or topics
   c. State and federal government information
   d. Information about and from associations

5. WWW resources at TSU
   a. Virtual reference
   b. Government resources

6. Web Sites in Biological Sciences

VI. Evaluate Research Materials

1. Criteria to evaluate research materials in Biological Sciences
   a. Author's qualifications
   b. Timeliness of the publication
   c. Accurate and factual information supported by evidence
   d. Primary vs. secondary sources
   e. Reputation of the publisher
   f. Type of publication

2. Criteria to evaluate web resources in Biological Sciences
   a. Scope
   b. Content
   c. Graphics and multimedia design
   d. Navigation

VII. Write the research paper

1. Organization of information
2. Citing sources and ethical issues
3. Guidebooks on research

VIII. Documentation

1. Documenting your research
2. Style manuals