

# **HANDBOOK**

## **Teaching Information Literacy Skills in Online Courses**

*Workshop J*  
*14<sup>th</sup> Annual Conference on Distance Teaching and Learning*  
*Madison, Wisconsin*  
*August 4, 1998*

**Lisa Janicke Hinchliffe**

**Tod Treat**

# HANDBOOK

## Teaching Information Literacy Skills in Online Courses

*Workshop J*  
*14<sup>th</sup> Annual Conference on Distance Teaching and Learning*  
*Madison, Wisconsin*  
*August 4, 1998*

**Copyright 1998 by Lisa Janicke Hinchliffe and Tod Treat. Portions of this document may be reproduced by non-profit organizations for educational and training purposes. All other uses require the written permission of the authors.**



# Information Literacy Defined

“To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information ... Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them.”

American Library Association Presidential Committee on Information Literacy. (January 1989). *Final Report of the American Library Association Presidential Committee on Information Literacy*. Chicago: American Library Association. Page 1.

# **Example Course Goals Related to Information Literacy**

- Critical Thinking
- Critical Reading
- Ability to Analyze Current Trends
- Understanding of Significant Issues
- Awareness of Controversy and Disagreement
- Evaluation of Information
- Development of Academic Thought and Discourse
- Research Writing

# Start with the Course Description

- Provides General Framework for Course Development
- May Indicate Specific Information Literacy Components
- Most Institutions Require Adherence
- What Other Faculty are Expecting
- What Students are Expecting
- What Other Colleges are Expecting
- May Indicate Prerequisites

# **Chemistry 100: Introduction to Chemistry**

## Course Description:

Introduction to chemical concepts, including the metric system, moles, chemical composition, atomic structure, bonding, reactions, gases, acids, and bases. Designed primarily for those with little or no high school chemistry who expect to continue with CHE 101-102 [Principles of Chemistry I and II].

## Prerequisites:

Recent high school algebra or completion of MAT 095 [Beginning Algebra] with a grade of C or higher.

*Your Course Name*

Course Description:

Prerequisites:

# Look at Program Statements

- Provide Broad Frameworks for Course Development
- May Indicate Specific Information Literacy Components
- Most Institutions Require Adherence
- What Other Faculty are Expecting
- What Students are Expecting
- What Other Colleges are Expecting
- Indicate Relationships Among Courses within a Program

# **Developmental Science Courses Program**

## **Department of Natural Sciences**

Goal 3: Students who complete Bio 100, Che 100, and Phy 100 will become active members of society with regard to scientifically related issues.

- 3.a. Students will develop an awareness of current scientific events.
- 3.b. Students will develop an ability to critically read newspaper and popular magazine articles on science issues.
- 3.c. Students will develop an awareness of the relationship between scientific ideas and their societal impact.
- 3.d. Students will develop a sense of social responsibility toward current issues with impacts on future generations

Department of Natural Sciences. Parkland College. (April 9, 1997).  
*Developmental Science Courses Program Assessment Plan.*

*Your Program and  
Department*

Useful Information from the Program Statement:

# Develop Course Goals

- Show the Overall Structure of the Course
- Define What Students Should Learn
- Indicate the Desired Results of Instruction
- Somewhat Indicate the Relative Importance of Course Components
- Provide General Guidance for Developing Specific Units, Activities and Assignments
- Can Help Students Structure Expectations and Study Habits

# Course Goals

## Chemistry 100 Online

Students taking Introduction to Chemistry will:

1. Gain basic understanding of fundamental concepts in chemistry, such as atomic structure, chemical composition, bonding, and chemical reactions.
2. Be able to systematically analyze and solve problems.
3. Gain an overview of learning theory with application to self-directed learning.
4. Develop a mastery of basic laboratory skills and the scientific method.
5. Develop an awareness of current scientific events.
6. Develop an ability to critically read and evaluate newspaper and popular articles on science issues.
7. Develop a basic ability to compile and analyze information about specific scientific topics.

# Course Goals

*Your Course Name*

1.

2.

3.

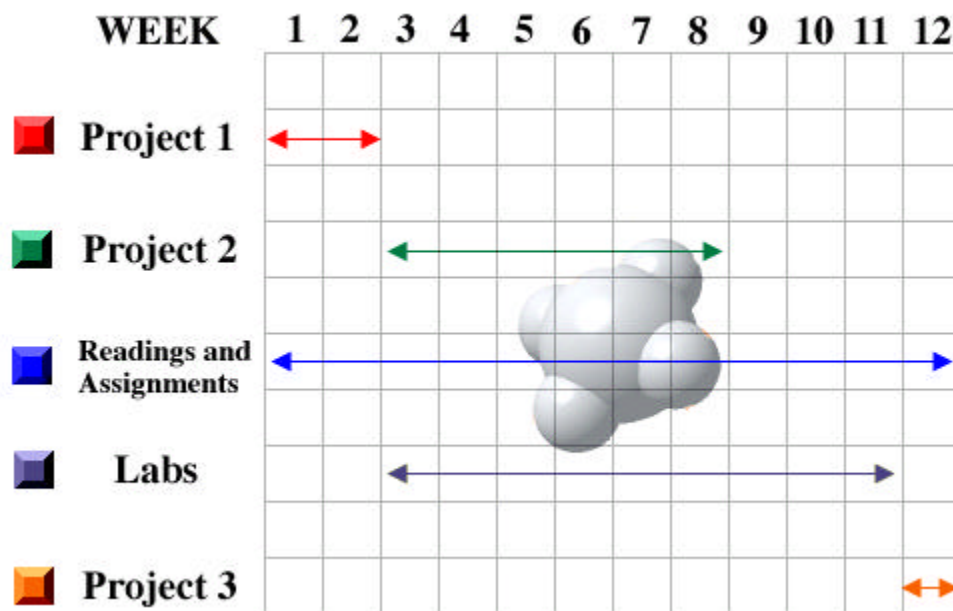
4.

5.

# Course Structure and Grading

## Chemistry 100 Online

Open Enrollment/16 Week Completion Required



Course Components	Percent	Number of Assignments
Learning Theory and Practice	5%	1
Scientific Literacy/Information Problem-Solving	20%	6
Lab Experiments	25%	5
Worksheets	30%	8
Chat Session	15%	Weekly
Internet Modeling Project	10%	1

# **Develop Specific Information Literacy Goals**

- Define the Desired Learning Outcomes
- Show the Overall Structure of the Information Literacy Course Component
- Detail the Elements of the Information Literacy Course Component
- Provide Focus for Developing Specific Activities and Assignments
- Can Assist Students in Structuring Expectations and Study Habits

# **Elements of Information Literacy**

- Recognize when information is needed.
- Locate information.
- Evaluate information.
- Use information.

## **Options for Incorporating the Elements of Information Literacy That Guide Decisions About Specific Information Literacy Goals**

- Assume that students already have the skill.
- Provide the results that would come from using the skill.
- Teach the skill.
- Combination of the above.

# Resources for Developing Specific Information Literacy Goals

## *Model Statement of Objectives for Academic Bibliographic Instruction: Draft Revision*

- <http://www.lib.utexas.edu/is/publications/mso.html>
- Prepared by the Task Force on Model Statement of Objectives of the Bibliographic Instruction Section of the Association of College and Research Libraries in 1987.
- *Read This First: An Owner's Guide to the New Model Statement of Objectives for Academic Bibliographic Instruction* (1991) provides direction in using the Model Statement of Objectives.
- Meant to stimulate thought, not prescribe instructional content – it is a thinking tool.
- Comprised of four general objectives and then terminal objectives for each of the general objectives.

# Resources for Developing Specific Information Literacy Goals

*(continued)*

## *General Objectives from The Model Statement of Objectives for Academic Bibliographic Instruction*

- The user understands how information is defined by experts, and recognizes how that knowledge can help determine the direction of his/her search for specific information.
- The user understands the importance of the organizational content, bibliographic structure, function, and use of information sources.
- The user can identify useful information from information sources or information systems.
- The user understands the way collections of information sources are physically organized and accessed.

# Resources for Developing Specific Information Literacy Goals

*(continued)*

## *The Nine Information Literacy Standards for Student Learning in Information Power: Building Partnerships for Learning*

- [http://www.ala.org/aasl/ip\\_nine.html](http://www.ala.org/aasl/ip_nine.html)
- Prepared by the American Association of School Librarians and the Association for Educational Communications and Technology in 1998.
- Guide to identifying links among K-12 student information needs, curriculum and learning.
- Comprised of three groups of standards, three standards in each group, success indicators for each of the standards, and levels of proficiency for each indicator.

# Resources for Developing Specific Information Literacy Goals

*(continued)*

## *The Nine Information Literacy Standards for Student Learning*

### Information Literacy

Standard 1: The student who is information literate accesses information efficiently and effectively.

Standard 2: The student who is information literate evaluates information critically and competently.

Standard 3: The student who is information literate uses information accurately and creatively.

### Independent Learning

Standard 4: The student who is an independent learner is information literate and pursues information related to personal interests.

Standard 5: The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.

Standard 6: The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.

### Social Responsibility

Standard 7: The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.

Standard 8: The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.

Standard 9: The student who contributes positively to the learning community and to society is information literate and participates effectively in groups to pursue and generate information.

# **Information Literacy Objectives**

## **Chemistry 100 Online**

Students who complete the Scientific Literacy/Information Problem-Solving component of Chemistry 100 Online will be able to:

1. Identify articles in general magazines and periodicals relevant to chemistry.
2. Choose a research topic.
3. Find information on the topic.
4. Evaluate the information.
5. Write a research summary
6. Write an essay reflecting on the research experience.

# The Elements of Information Literacy and Options for Incorporation Chemistry 100 Online

<b>Element of Information Literacy</b>	<b>Assume students have the skill.</b>	<b>Provide the results which would come from using the skill.</b>	<b>Provide instruction in the skill</b>
Recognize when information is needed.		✓	✓
Locate information.			✓
Evaluate information.			✓
Use information.	✓		

# Information Literacy Objectives

*Your Course Name*

1.

2.

3.

4.

5.

# The Elements of Information Literacy and Options for Incorporation

*Your Course Name*

<b>Element of Information Literacy</b>	<b>Assume students have the skill.</b>	<b>Provide the results which would come from using the skill.</b>	<b>Provide instruction in the skill</b>
Recognize when information is needed.			
Locate information.			
Evaluate information.			
Use information.			

# Expected Students

- Academic Skill Levels/Previous Academic Experiences
  - In the Discipline
  - Related and Service Disciplines
- Demographic Characteristics
  - Age
  - Race/Ethnicity
  - Gender
  - ESL/International
- Technology Skills
  - Comfort
  - Word Processing
  - Spreadsheet
  - File Manipulation
  - Web/Internet

# **Expected Students**

## **Chemistry 100 Online**

- Academic Skill Levels/Previous Academic Experiences
  - No previous chemistry.
  - College ready math and writing skills.
- Demographic Characteristics
  - College ready traditional students.
  - Adult and returning students.
- Required Prerequisite Technology Skills
  - Ability to type.
  - Ability to transfer, save, delete, and send files.
  - Ability to use word processing and spreadsheet programs.
  - Ability to use a modem and an Internet browser.
  - Ability to download files from the Internet.

# Expected Students

*Your Course Name*

- Academic Skill Levels/Previous Academic Experiences
  - In the Discipline \_\_\_\_\_
  - Related and Service Disciplines \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  
- Demographic Characteristics
  - Age \_\_\_\_\_
  - Race/Ethnicity \_\_\_\_\_
  - Gender \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  
- Technology Skills
  - Word Processing \_\_\_\_\_
  - Spreadsheet \_\_\_\_\_
  - File Manipulation \_\_\_\_\_
  - Web/Internet \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

# Resources

## Technology

- Provide by the College or the Student
- Software
- Hardware
- Internet Access

## Technology Assistance

- Provided by Technical Staff or Instructor
- Help Desk
- Training Sessions
- Online Instructional Materials

## Academic Services

- Library
  - Research/Reference Assistance
  - Library Instruction
  - Access to Databases
  - Document Delivery
- Peer Tutoring
- Writing Center

## Student Services

- Personal Counseling
- Career Counseling
- Job Placement
- Bookstore
- Clubs and Organizations

# Resources

## Chemistry 100 Online

### Technology

- Internet Browser – Netscape 3.0 or Higher (Student)
- FirstClass – Client Software Version 3.5 (Parkland)
- Word Processor – E.g. Microsoft Word or WordPerfect (Student)
- Plotting/Graphing Software – E.g. Lotus 1-2-3, Excel, or CricketGraph (Student)
- Hardware – Computer, Modem and Printer (Student)
- Internet Access (Student)

### Technology Assistance

- Provided by Technical Staff and Instructor
- Help Desk
- Training Sessions
- Online Instructional Materials

### Academic Services

- Library – (Lisa Provided)
  - Research/Reference Assistance
  - Library Instruction
  - Access to Databases

# Resources

*Your Course Name*

## Technology

- Provide by the College or the Student
- Software
- Hardware
- Internet Access

## Technology Assistance

- Provided by Technical Staff or Instructor
- Help Desk
- Training Sessions
- Online Instructional Materials

## Academic Services

- Library
  - Research/Reference Assistance
  - Library Instruction
  - Access to Databases
  - Document Delivery
- Peer Tutoring
- Writing Center

## Student Services

- Personal Counseling
- Career Counseling
- Job Placement
- Bookstore
- Clubs and Organizations

# Activities and Assignments

Suggestions for Successful Information Literacy Activities and Assignments:

- ✓ Relate Them to Course Content
- ✓ Use Real-Life Information Problems
- ✓ Include Opportunities for Instructor Feedback
- ✓ Use a Variety of Teaching and Presentation Styles
- ✓ Emphasize Process
- ✓ Assure that Successful Completion is Possible
- ✓ Minimize “Library Hassle”

# Activities and Assignments

Suggestions for Innovative Term Paper and Term Paper Alternative Assignments:

**AWARD NOMINATION:** Select an award, nominate a person or group for the award and write a justification.

**INTERNET BIBLIOGRAPHY:** Create an annotated bibliography of Internet resources on a topic.

**HISTORICAL FIGURE:** Research a historical figure and then “be” that person for a specified time period or in a writing assignment, e.g. journal, letters, or diary. Potentially have different historical figures converse and debate issues among themselves.

**NEWSPAPER ARTICLE:** Research an event and then write an “objective” newspaper story.

**EDITORIAL OR OPINION COLUMN:** Research a topic. Present both “objective” information and particular viewpoint.

**NEWSPAPER OR NEWSLETTER:** Create a full issue.

**NEWS CONFERENCE:** Analyze a transcript. Develop additional questions for the interviewee. Justify the questions.

# Activities and Assignments

Suggestions for Innovative Term Paper and Term Paper  
Alternative Assignments (*continued*):

**ANTHOLOGY:** Create an annotated anthology. Write an introduction. Present justification for inclusions/exclusions.

**LIBRARY COLLECTION:** Given a budget, select books, journals and other materials for a research collection on a topic area.

**CRITICAL HUMANITIES REVIEW:** Attend a concert, art show, etc. and then write a critical review including historical and contemporary information.

**EXAMINATION/TEST:** Write an exam and answer the questions. Provide justification for the test questions.

**GRANT PROPOSAL:** Research funding agencies and then write a grant proposal to address a particular problem.

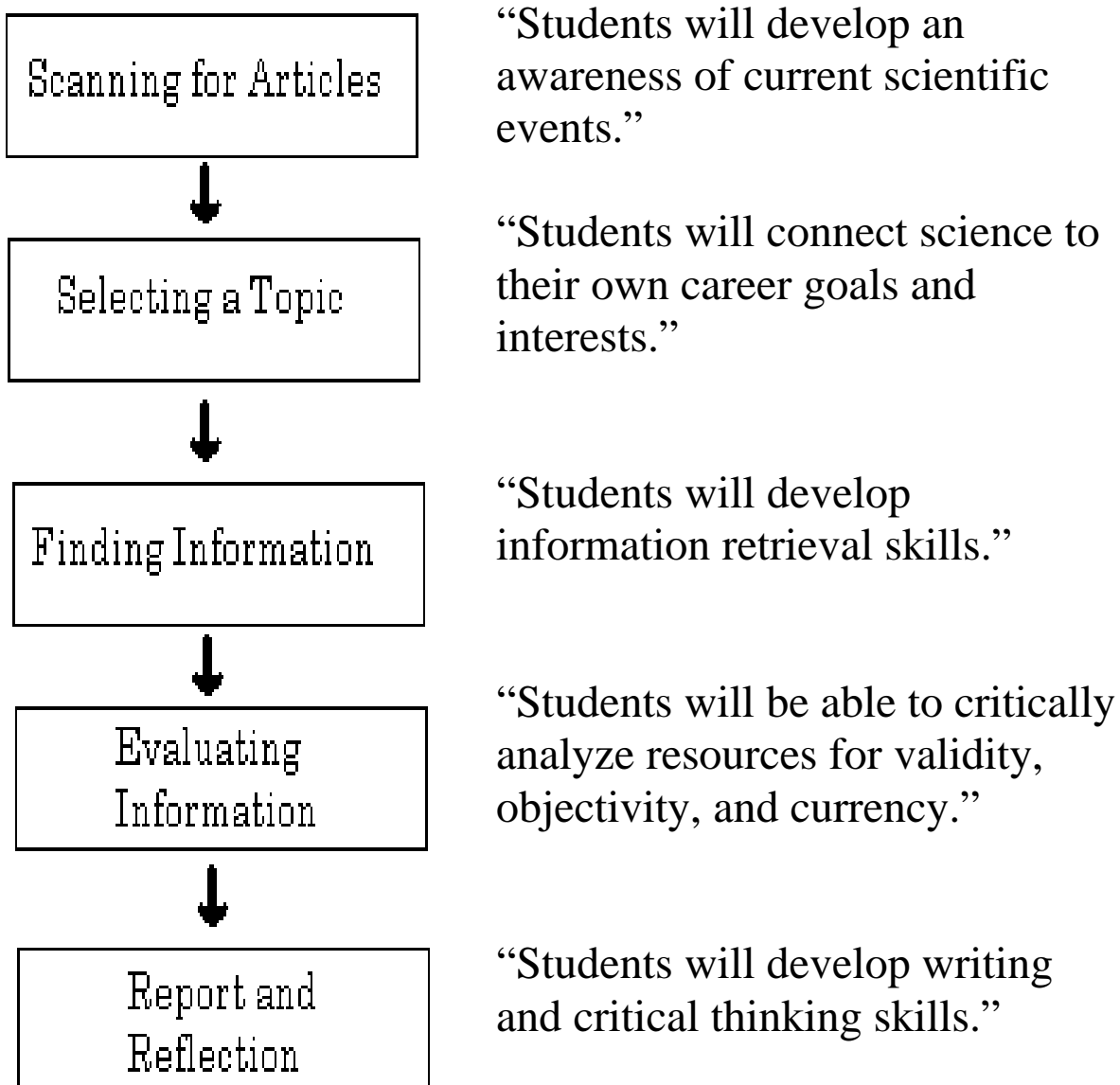
Selected from Barbara Kobritz's March 1998 postings to BI-L which referenced:

- ✓ Huber, Kris and Patricia Lewis. (1984). "Teaching the Tough Stuff: Tired of Term Papers? Options for Librarians and Professors." *Research Strategies* 2(4): 192-199.
- ✓ Lutzker, Marilyn. (1988). *Research Projects for College Students: What to Write Across the Curriculum*. New York: Greenwood Press.

# Activities and Assignments

## Chemistry 100 Online

### Relationship to Goals



# Scientific Literacy

## Chemistry 100

- *<http://will.parkland.cc.il.us/~ttreat/che100/mod2.htm>*
- Scan magazines, journals and newspapers for three articles relevant to chemistry.
- Create an APA style bibliographic citation for each article.
- Summarize each article and connect it to chemistry and your career goals.

# Selecting a Topic

## Information Problem-Solving

### Chemistry 100 Online

- <http://will.parkland.cc.il.us/~ttreat/che100/ips/select.htm>
- Choose a current topic in chemistry.
  - Breakthrough in research of general interest or a topic of personal current interest.
  - Topic you are interested in or willing to learn more about.
  - Browse websites and article databases for ideas.
- Discuss why the topic was selected and why other topics were rejected.

# Finding Information Information Problem-Solving Chemistry 100 Online

- *<http://will.parkland.cc.il.us/~ttreat/che100/ips/finding.htm>*
- What do you already know?
- What does the textbook say?
- Research Strategies
  - Websites
  - Journal Articles
- Create a Working Bibliography

# Evaluating Information Information Problem-Solving Chemistry 100 Online

- *<http://will.parkland.cc.il.us/~ttreat/che100/ips/evaluate.htm>*
- Coverage
  - Accuracy
  - Currency
- Author/Creator
- Audience
- Purpose

# Writing a Research Summary Information Problem-Solving Chemistry 100 Online

- *<http://will.parkland.cc.il.us/~ttreat/che100/ips/writing.htm>*
- Essay Format
  - Introduction
  - Body
  - Conclusion
  - Bibliography
- Reflection Cover Memo

# Activities and Assignments

*Your Course Name*

# Activities and Assignments

*Your Course Name*

# Assessment and Evaluation

Assess student progress, experience, skills, attitudes, knowledge and products.

- ✓ Classroom Assessment Techniques
- ✓ Primary Trait Analysis
- ✓ Grades
- ✓ Inventories
- ✓ Surveys
- ✓ Retention Rates

Evaluate the effectiveness of teaching, instructional materials, presentation format, technology and assessment structure.

- ✓ Classroom Assessment Techniques
- ✓ Semester and Mid-Semester Evaluation Forms

# Assessment and Evaluation

## Chemistry 100 Online

- Primary Trait Analysis
  - Evaluate Worksheets, Essays and Chats
  - <http://will.parkland.cc.il.us/~ttreat/che100/wkshtgr.htm>
- Classroom Assessment Techniques
  - Anonymous Survey
- Multiple Information Literacy Worksheets
  - Opportunity for Instructor to Give Feedback
  - Opportunity for Instructor to Identify Mistakes
  - Opportunity for Students to Correct Mistakes
- Reflection Essay
  - Opportunity for Student Self-Assessment

# Assessment and Evaluation

*Your Course Name*

# Resource Bibliography

Huber, Kris and Patricia Lewis. (1984). "Teaching the Tough Stuff: Tired of Term Papers? Options for Librarians and Professors." *Research Strategies* 2(4): 192-199.

*Learning to Teach: Workshops on Instruction.* (1993). Chicago: Bibliographic Instruction Section, Association of College and Research Libraries.

Lutzker, Marilyn. (1988). *Research Projects for College Students: What to Write Across the Curriculum.* New York: Greenwood Press.

McKeachie, Wilbert J. (1994). *Teaching Tips: Strategies, Research, and Theory for College and University Teachers.* Lexington, MA: D.C.Heath and Company.

Porter, Lynnette R. (1997). *Creating the Virtual Classroom: Distance Learning with the Internet.* New York: John Wiley and Sons.

*Sourcebook for Bibliographic Instruction.* (1993). Chicago: Bibliographic Instruction Section, Association of College and Research Libraries.

West, Charles K., James A. Farmer, and Phillip M. Wolff. (1991). *Instructional Design: Implications from Cognitive Science.* Englewood Cliffs, NJ: Prentice Hall.

# Workshop Facilitators

**Lisa Janicke Hinchliffe**

*Library Instruction Coordinator  
and Assistant Professor*

Milner Library

Illinois State University

Campus Box 8900

Normal, Illinois 61790-8900

[Lisa@exchange1.mlb.ilstu.edu](mailto:Lisa@exchange1.mlb.ilstu.edu)

**Tod Treat**

*Associate Professor of Chemistry*

Department of Natural Sciences

Parkland College

2400 West Bradley Avenue

Champaign, Illinois 61821

[TTreat@parkland.cc.il.us](mailto:TTreat@parkland.cc.il.us)