Chemistry

Resources for Teaching Chemistry

American Chemical Society (ACS): Chemistry Education.
This site provides links for educators and students to resources such as courses and workshops, ACS program assessment guidelines, safety guidelines, and continuing education courses.
http://portal.acs.org:80/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_EDUCATION&node_id=89&use_sec=false&_uuid=e4b36fdd-6951-4381-b3ca-3a43161fb63c [1]

Directory and search engine of chemistry related resources on the Internet reviewed for value by a team of editors. Links to more than 250 chemistry websites.
http://www.chemistryguide.org/ [2]

Resources for Chemistry Educators (Stephen Lower, Simon Fraser University, Vancouver, Canada).
This site provides a selective, annotated, collection of Web links to instructional materials and other resources for chemistry teachers and course developers, tutorials for students, homework and quizzes, and much more.

Purdue University Division of Chemical Education.
Contains links for both students and faculty, including help in General Chemistry and Organic Chemistry and lecture demonstration materials in a broad spectrum of scientific topics. A test bank of questions for instructors only is limited to authorized users, with information provided on how to gain authorization.

Process Oriented Guided Inquiry Learning, POGIL (partially funded by NSF grants).
POGIL is a research-based learning environment for high school through college in which self-managed teams in science courses engage in guided inquiry activities. This site offers free online resources, curriculum materials, and abstracts of articles about this approach. At the time of this writing, available materials (for purchase) focus on chemistry.
https://pogil.org/ [5]

Inorganic Chemistry Teaching Resources (Scot Wherland, Washington State University).
Provides links to a structure database, 3D Periodic Table of Radii, and other Links of Note for chemistry educators.
http://www.wsu.edu/~wherland/ [6]

ConcepTests for Use in Chemistry.
ConcepTests is a pedagogical method designed by Harvard physicist Eric Mazur. This site offers links to a library of physics ConcepTest questions, videos showing this strategy in action, and links to questions for specific chemistry
National Science Digital Library (NSDL): Chemistry Educational Resources.
Offers links to hundreds of sites with materials, information, gateways, and articles on teaching chemistry in higher education.
https://nsdl.oercommons.org/browse

A Bibliography of Science Teaching Pedagogy with an Emphasis on Chemistry (Cal State LA).
A comprehensive list of print materials for science teaching organized into 12 sections such as active learning, ethics, lab classes, etc.
http://web.calstatela.edu/dept/chem/chem2/LACTE/References1.html

Syllabi and Course Materials in Chemistry

“An interactive [free online] textbook covering the usual topics treated in a college sophomore-level course.” Selected topics are linked to advanced discussions.
http://www.cem.msu.edu/~reusch/vtxtindex.htm

MERLOT Chemistry Portal Portal (Multimedia Educational Resource for Learning and Online Teaching).
The portal for multimedia teaching and learning materials for college and university chemistry.
http://chemistry.merlot.org/

MITOpenCourseWare: Chemistry (Massachusetts Institute of Technology).
Syllabi, course materials, and curriculum for MIT undergraduate and graduate chemistry courses.
http://ocw.mit.edu/courses/chemistry/

Journals in Chemistry Education

Journal of Chemical Education (Published by the Division of Chemical Education of the American Chemical Society).
This site offers articles and abstracts for the Journal of Chemical Education plus a digital library with exercises, a DigiDemo collection, and other resources useful for educators. The journal is available by subscription in print and online.
http://www.jce.divched.org/

Chemistry Education: Research and Practice, CERP (Royal Society of Chemistry).
This is a peer-reviewed journal from Europe for teachers, researchers, and other practitioners in chemistry education available free of charge on the Internet. This site offers links to past and present issues.
http://www.uoi.gr/cerp/
Chemistry Program Assessment

The American Chemical Society (ACS) publishes handbooks for the review process in undergraduate education:


**Plus Supplements to the Guidelines Online:**
http://www.acs.org/content/acs/en/about/governance/committees/training/acs-guidelines-supplements.html [16]

Chemistry Resources for Students

See the link above to Purdue University Division of Chemical Education for resources to help students with topics in general and organic chemistry.

Also see the link above to Virtual Textbook of Organic Chemistry by William Reusch.

**CIRRUS, Chemistry Internet Resource for Research by Undergraduate Students.**
Information and links pertinent to undergraduate research in chemistry.
http://cirrus.chem.plu.edu/ [17]

Michigan State University Chemistry Resources

**MSU Department of Chemistry.**
Offers links to MSU course web pages, some with course materials, problem sets, and worksheets.
http://www.chemistry.msu.edu/ [18]

These resources were compiled and annotated by Lois Rosen, Ph.D., Instructional Consultant for the Office of Faculty and Organizational Development, Michigan State University.