Basic Resources for Pharmacy Education

2008 Edition

A Service Project of the
Libraries/Educational Resources Section of the
American Association of Colleges of Pharmacy

Edited by Leslie Ann Bowman and Barbara Nanstiel


Dedicated to the Memory of Winifred Sewell,
Our Mentor and Friend

Basic Resources for Pharmaceutical Education is produced as a guide for those who manage library collections that serve colleges of pharmacy. The list’s editors and current contributors all work in such libraries and this list contains our recommendations for works to be included in pharmacy library collections. The books and other works recommended in the Basic Resources list are suitable for all pharmacy college libraries, but all pharmacy college libraries need not purchase every title in the list. Each pharmacy college has its own mission and its own program(s), and so each college’s library’s collection must reflect that mission and support the college’s program(s). Excellent library collections are built by knowledgeable librarians using their professional judgment along with the expertise of the college’s faculty. The Basic Resources, therefore, should not be used as a benchmark and is not prescriptive, but instead is a starting place for librarians who are building a new collection or maintaining an established one.

Producing Basic Resources is a community effort. Each Basic Resources section is reviewed every three or four years by a contributor. The contributors review assigned sections of the list and make suggestions for additions and deletions to the section. Then the editors compile the suggested additions and deletions, and ask an advisory panel of pharmacy librarians and faculty for their approval of the suggested changes. Approved changes are then incorporated into the list’s database. There are two review cycles each year so that two sets of sections are reviewed during the course of the year. Our goal is to review the entire list every three years and to publish Basic Resources annually.
We welcome volunteers both to contribute to *Basic Resources* by reviewing sections or to serve on our advisory panel. For more information about how the list is maintained or to volunteer to work on it, please contact either Leslie Ann Bowman ([l.bowman@usip.edu](mailto:l.bowman@usip.edu)) or Barbara Nanstiel ([barbara.nanstiel@wilkes.edu](mailto:barbara.nanstiel@wilkes.edu)).
Subject Classification of the Basic Resources for Pharmacy Education

A.0 BASIC SCIENCES
   A.1. GENERAL CHEMISTRY
   A.2 BIOCHEMISTRY (see also B.1 MEDICINAL CHEMISTRY)
   A.3 IMMUNOLOGY
   A.4.0 MICROBIOLOGY
   A.4.a MOLECULAR BIOLOGY AND BIOTECHNOLOGY

B.0 PHARMACEUTICAL SCIENCES
   B.1 MEDICINAL CHEMISTRY
   B.2 PHARMACOGNOSY AND NATURAL PRODUCTS (see also D.3.C NUTRITION AND NUTRACEUTICALS)
   B.3.0 PHARMACEUTICS
   B.3.a BIOPHARMACEUTICS AND PHARMACOKINETICS
   B.4.0 DRUG DESIGN, DISCOVERY, AND DEVELOPMENT (see also b.5.0 INDUSTRIAL)
   B.5.0 INDUSTRIAL
   B.6.0 COSMETICS
   B.7.0 NUCLEAR AND RADIOPHARMACY
   B.8.0 PHARMACOLOGY
   B.8.a.0 TOXICOLOGY
   B.8.a.1 DRUG ADVERSE REACTIONS, INTERACTIONS, AND SIDE EFFECTS (see also D.3.0 THERAPEUTICS)
   B.8.b VETERINARY PHARMACOLOGY

C.0 MEDICAL SCIENCES (SCIENCES BASIC TO MEDICINE)
   C.1 ANATOMY AND PHYSIOLOGY

D.0 CLINICAL SCIENCES
   D.1 PATHOPHYSIOLOGY
   D.2 PATIENT PHYSICAL ASSESSMENT
   D.3.0 THERAPEUTICS
      D.3.a GERIATRICS
      D.3.b NEUROLOGY
      D.3.c NUTRITION AND NUTRACEUTICALS
      D.3.d ONCOLOGY AND HEMATOLOGY
      D.3.e PARENTERALS
      D.3.f PEDIATRICS
      D.3.g PSYCHIATRY
D.0 CLINICAL SCIENCES (continued)
   D.3.0 THERAPEUTICS (continued)
   D.3.h SUBSTANCE ABUSE
   D.3.i SURGERY
D.4. ALTERNATIVE MEDICINE
E.0 PHARMACEUTICAL CARE (SOCIAL, BEHAVIORAL, AND ADMINISTRATIVE PHARMACY)
   E.1.0 HEALTH CARE POLICY, SYSTEMS AND SERVICES
      E.1.a EPIDEMIOLOGY
      E.1.b PHARMACOECONOMICS
   E.2.0 PATIENT-RELATED ACTIVITIES
      E.2.a DISEASE STATE MANAGEMENT
      E.2.b SELF CARE (OTCs)
   E.3.0 PHARMACISTS’ PROFESSIONAL DEVELOPMENT
      E.3.a COMMUNICATION SKILLS
      E.3.b EDUCATION
   E.4.0 PROFESSIONAL PRACTICE
      E.4.a COMMUNITY PHARMACY
      E.4.b HEALTH-SYSTEM PHARMACY AND INSTITUTIONAL PHARMACY
      E.4.c HOME HEALTH CARE
      E.4.d MANAGED CARE
      E.4.e DRUG USE EVALUATION
X.1.0 HISTORY*
X.2.0 INFORMATICS*
   X.2.a BIBLIOGRAPHICICES AND LITERATURE GUIDES*
   X.2.b HANDBOOKS AND DICTIONARIES*
   X.2.c EVIDENCE-BASED PRACTICE*
X.3 LAWS, LEGISLATION, REGULATIONS, AND ETHICS*
X.4.0 METHODOLOGY, STATISTICS, AND RESEARCH DESIGN*
   X.4.a QUALITY ASSURANCE*
X.5 DIRECTORIES*

*The classifications beginning with ‘X’ may also be used as subdivisions of other classifications. Examples:
A.2 - X.4.0 BIOCHEMISTRY - METHODOLOGY, STATISTICS, AND RESEARCH DESIGN
B.4.0 - X.1.0 DRUG DESIGN, DISCOVERY, AND DEVELOPMENT – HISTORY
BASIC RESOURCES FOR PHARMACY EDUCATION
2008 Edition

A.0 - X.6.1.c BASIC SCIENCES - ONLINE ABSTRACTS AND INDEXES


CAPlus. CAS, updated daily. Available in a variety of formats and at various prices. Print title: Chemical abstracts. URL: http://info.cas.org/


Science citation index. Thomson Scientific, updated weekly. Available in a variety of formats and at various prices. Also known as SciSearch. URL: http://scientific.thomson.com/products/sci/}

A.1 GENERAL CHEMISTRY


A.1 - X.2.b GENERAL CHEMISTRY - HANDBOOKS AND DICTIONARIES


A.1 - X.7 GENERAL CHEMISTRY - WEB SITES

A.2 BIOCHEMISTRY


A.3 IMMUNOLOGY


A.4.0 MICROBIOLOGY


A.4.0 - X.4.0 MICROBIOLOGY- METHODOLOGY, STATISTICS, AND RESEARCH DESIGN

URL: http://www.cfsan.fda.gov/~ebam/bam-toc.html


A.4.a MOLECULAR BIOLOGY AND BIOTECHNOLOGY


A.4.a - X.1.0 MOLECULAR BIOLOGY AND BIOTECHNOLOGY - HISTORY


A.4.a - X.2.b MOLECULAR BIOLOGY AND BIOTECHNOLOGY - HANDBOOKS AND DICTIONARIES


A.4.a - X.3 MOLECULAR BIOLOGY AND BIOTECHNOLOGY - LAWS, LEGISLATION, REGULATIONS, AND ETHICS


B.0 - X.6.1.c PHARMACEUTICAL SCIENCES - ONLINE ABSTRACTS AND INDEXES

IDIS: Iowa drug information service. Division of Drug Information Service, College of Pharmacy, University of Iowa. Available in a variety of formats and at various prices. URL: http://www.uiowa.edu/~idis/idistday.htm

IPA: international pharmaceutical abstracts. Thomson. Available in a variety of formats and at various prices. URL: http://scientific.thomson.com/products/ipa/

B.1 MEDICINAL CHEMISTRY


B.1 - X.2.b MEDICINAL CHEMISTRY - HANDBOOKS AND DICTIONARIES


B.1 - X.4.0 MEDICINAL CHEMISTRY - METHODOLOGY, STATISTICS, AND RESEARCH DESIGN


B.1 - X.7 MEDICINAL CHEMISTRY - WEB SITES

Harrold, Marc W. Basic concepts in medicinal chemistry [tutorial]. School of Pharmacy, Duquesne, 2001-. URL: http://www-home.cr.duq.edu/~harrold/basic_concepts_index.html
B.2 PHARMACOGNOSY AND NATURAL PRODUCTS


B.2 - X.1.0 PHARMACOGNOSY AND NATURAL PRODUCTS - HISTORY


B.2 - X.2.b PHARMACOGNOSY AND NATURAL PRODUCTS - HANDBOOKS AND DICTIONARIES

AltMedDex system. Thomson MICROMEDEX, updated quarterly. MICROMEDEX products available to schools of pharmacy without charge when limited to teaching purposes, not clinical use. Available on CD-ROM and online.


Ross, Ivan A. Medicinal plants of the world: chemical constituents, traditional and modern medicinal uses. 2nd ed. Totowa, NJ: Humana, 2003-. ISBN: 9781588292810 (vol. 1); 9780896038776 (vol. 2); 9781588291295, (vol. 3). Vol. 1,3, $135.00 each; vol. 2 $129.00.


B.2 - X.4.0 PHARMACOGNOSY AND NATURAL PRODUCTS - METHODOLOGY, STATISTICS, AND RESEARCH DESIGN

B.2 - X.7 PHARMACOGNOSY AND NATURAL PRODUCTS - WEB SITES


URL: http://www.drugdigest.org/DD/DVH/Herbs/0,3913,,00.html

URL: http://www.nlm.nih.gov/medlineplus/druginfo/herb_All.html

*Jellin, Jeff, ed. Natural medicines comprehensive database. Stockton, CA: Therapeutic Research Center, annual, 1999-. $92.00 year; $59.00 for single user, if ordered with Yearly Web or PDA; available in a variety of formats.


United States Pharmacopeial Convention. USP verified. USP. URL: http://www.usp.org/USPVerified/

B.3.0 PHARMACEUTICS


B.3.0 - X.7 PHARMACEUTICS - WEB SITES


International Academy of Compounding Pharmacists. Missouri City, TX: International Academy of Compounding Pharmacists. URL: http://www.iacprx.org/

Shrewsbury, Robert. Pharmaceutics and compounding laboratory. School of Pharmacy, University of North Carolina, 1999. URL: http://pharmlabs.unc.edu/

B.3.a BIOPHARMACEUTICS AND PHARMACOKINETICS


B.3.a - X.1.a BIOPHARMACEUTICS AND PHARMACOKINETICS - CLASSICS


B.3.a - X.4.0 BIOPHARMACEUTICS AND PHARMACOKINETICS - METHODOLOGY, STATISTICS, AND RESEARCH DESIGN


B.4.0 DRUG DESIGN, DISCOVERY, AND DEVELOPMENT


Smith, Dennis A.; Van De Waterbeemd, Han; and Walker, Don K. Pharmacokinetics and metabolism in drug design. 2nd ed. New York: Wiley, 2006. ISBN: 9783527313686 $130.00; also available online.


B.4.0 - X.1.0 DRUG DESIGN, DISCOVERY, AND DEVELOPMENT - HISTORY


B.4.0 - X.2.0 DRUG DESIGN, DISCOVERY, AND DEVELOPMENT - INFORMATICS

B.5.0 INDUSTRIAL


Tyle, Praveen. Specialized drug delivery systems: manufacturing and production technology. New York:


B.5.0 - X.1.a INDUSTRIAL - CLASSICS


B.5.0 - X.2.b INDUSTRIAL - HANDBOOKS AND DICTIONARIES


B.5.0 - X.4.0 INDUSTRIAL - METHODOLOGY, STATISTICS, AND RESEARCH DESIGN


B.5.0 - X.4.a INDUSTRIAL - QUALITY ASSURANCE


B.5.0 - X.5 INDUSTRIAL - DIRECTORIES


B.5.0 -X.7 INDUSTRIAL - WEB SITES


B.6.0 COSMETICS


B.6.0 - X.2.b COSMETICS - HANDBOOKS AND DICTIONARIES

Flick, Ernest W., ed. Cosmetic and toiletry formulations. 2nd ed. Norwich, N.Y.: William Andrew Publishing, 1989. ISBN: 0815514549 (vol. 8). Vol. 1, $195.00; Vol. 2, $195.00; Vol. 3, $139.00; Vol. 4, $145.00; Vol. 5, $169.00; Vol. 6, $129.00; Vol. 7, $167.00; Vol. 8, $165.00 Available in various formats.


B.7.0 NUCLEAR AND RADIOPHARMACY


B.7.0 - X.2.b NUCLEAR AND RADIOPHARMACY - HANDBOOKS AND DICTIONARIES


B.8.0 PHARMACOLOGY


B.8.0 - X.7 PHARMACOLOGY - WEB SITES

Clinical pharmacology. Gold Standard. price dependent on number of student FTE's; also available in handheld versions and on CD-ROM. URL: http://www.gsm.com/
B.8.a.0 TOXICOLOGY


**B.8.a.0 - X.2.b TOXICOLOGY - HANDBOOKS AND DICTIONARIES**


POISINDEX system. Greenwood Village, CO: Thomson MICROMEDEX, updated quarterly. MICROMEDEX products available to schools of pharmacy without charge when limited to teaching purposes, not clinical use. Available on CD-ROM and online.


**B.8.a.0 - X.4.0 TOXICOLOGY - METHODOLOGY, STATISTICS, AND RESEARCH DESIGN**


B.8.a.0 - X.6.1.0 TOXICOLOGY - ONLINE RESOURCES

RTECS: Registry of toxic effects of chemical substances. National Institute for Occupational Safety and Health. Available in a variety of formats and at various prices. URL: http://www.cdc.gov/niosh/rtecs/

B.8.a.1 DRUG ADVERSE REACTIONS, INTERACTIONS, AND SIDE EFFECTS


*Drug interaction facts. St. Louis: Facts and Comparisons, loose-leaf updated quarterly. $235.00 (renewal $209.00). Also available in other formats.

The Medical Letter adverse drug interactions program [software]. Medical Letter, updated every 6 months. $98.00. Also available for PDA. URL: http://medlet-best.securesites.com/html/software.htm


**B.8.a.1-X.1.a DRUG ADVERSE REACTIONS, INTERACTIONS, AND SIDE EFFECTS - CLASSICS**


**B.8.a.1 - X.7 DRUG ADVERSE REACTIONS, INTERACTIONS, AND SIDE EFFECTS - WEB SITES**

Database of antiretroviral drug interactions. Center for HIV Information, University of California, San Francisco. URL: http://hivinsite.ucsf.edu/InSite?page=ar-00-02


Foucher, Pascal; and Camus, Philippe. Pneumotox online: the drug-induced lung diseases. Dijon, France: Department of Pulmonary Diseases and Intensive Care Unit, University Hospital, Dijon, France. URL: http://www.pneumotox.com/
B.8.b VETERINARY PHARMACOLOGY


B.8.b - X.2.b VETERINARY PHARMACOLOGY - HANDBOOKS AND DICTIONARIES


C.0 - X.2.b MEDICAL SCIENCES (SCIENCES BASIC TO MEDICINE) - HANDBOOKS AND DICTIONARIES


C.0 - X.6.1.c MEDICAL SCIENCES (SCIENCES BASIC TO MEDICINE) - ONLINE ABSTRACTS AND INDEXES


CINAHL. CINAHL Information Systems, updated monthly. Available in a variety of formats and at various prices. URL: http://www.cinahl.com/index.html

EMBASE. Elsevier, updated weekly. Available in a variety of formats and at various prices. URL: http://www.elsevier.com


C.1 ANATOMY AND PHYSIOLOGY


D.0 - X.2.b CLINICAL SCIENCES - HANDBOOKS AND DICTIONARIES

D.0 - X.7 CLINICAL SCIENCES - WEB SITES


D.1 PATHOPHYSIOLOGY


D.2 PATIENT PHYSICAL ASSESSMENT


D.3.0 THERAPEUTICS


D.3.0 - X.2.0 THERAPEUTICS - INFORMATICS


D.3.0 - X.2.b THERAPEUTICS - HANDBOOKS AND DICTIONARIES


D.3.0 - X.4.0 THERAPEUTICS - METHODOLOGY, STATISTICS, AND RESEARCH DESIGN


D.3.a GERIATRICS


D.3.a - X.2.b GERIATRICS - HANDBOOKS AND DICTIONARIES


D.3.b NEUROLOGY


D.3.b - X.2.b NEUROLOGY - HANDBOOKS AND DICTIONARIES


D.3.c NUTRITION AND NUTRACEUTICALS


D.3.c - X.7 NUTRITION AND NUTRACEUTICALS - WEB SITES

D.3.d ONCOLOGY AND HEMATOLOGY


D.3.e PARENTERALS


D.3.f PEDIATRICS


D.3.f - X.2.b PEDIATRICS - HANDBOOKS AND DICTIONARIES


D.3.g PSYCHIATRY


D.3.g - X.1.0 PSYCHIATRY - HISTORY


D.3.g - X.2.b PSYCHIATRY - HANDBOOKS AND DICTIONARIES


D.3.h SUBSTANCE ABUSE


D.3.h - X.2.b SUBSTANCE ABUSE - HANDBOOKS AND DICTIONARIES


D.3.h - X.7 SUBSTANCE ABUSE - WEB SITES

National Clearinghouse on Alcohol and Drug Information. U.S. Substance Abuse and Mental Health Services Administration. URL: http://ncadi.samhsa.gov/about/aboutncadi.aspx

National Institute on Alcohol Abuse and Alcoholism. National Institute on Alcohol Abuse and Alcoholism. URL: http://www.niaaa.nih.gov/


D.3.i SURGERY


D.4 ALTERNATIVE MEDICINE


Micozzi, Marc S. Fundamentals of complementary and alternative medicine. 2nd ed. New York: Churchill


D.4 - X.2.b ALTERNATIVE MEDICINE - HANDBOOKS AND DICTIONARIES


D.4 - X.7 ALTERNATIVE MEDICINE - WEB SITES


E.0 PHARMACEUTICAL CARE (SOCIAL, BEHAVIORAL, AND ADMINISTRATIVE PHARMACY)


Rantucci, Melanie J. Pharmacists talking with patients: a guide to patient counseling. 2nd ed.


E.0 - X.4.0 PHARMACEUTICAL CARE (SOCIAL, BEHAVIORAL, AND ADMINISTRATIVE PHARMACY) - METHODOLOGY, STATISTICS, AND RESEARCH DESIGN


E.0 - X.6.1.c PHARMACEUTICAL CARE (SOCIAL, BEHAVIORAL, AND ADMINISTRATIVE PHARMACY) - ONLINE ABSTRACTS AND INDEXES

Social sciences citation index. Thomson Reuters, updated weekly. Available in a variety of formats and at various prices. URL: http://scientific.thomsonreuters.com/products/ssci/

E.1.0 HEALTH CARE POLICY, SYSTEMS AND SERVICES


E.1.a EPIDEMIOLOGY


E.1.b PHARMACOECONOMICS


E.2.0 PATIENT-RELATED ACTIVITIES


E.2.a DISEASE STATE MANAGEMENT


**E.2.b - X.2.b SELF CARE (OTCs) - HANDBOOKS AND DICTIONARIES**


Compendium of self-care products. Ottawa, Canada: Canadian Pharmacists Association, annual. 2002-03, $85.00.


**E.3.0 PHARMACISTS’ PROFESSIONAL DEVELOPMENT**


E.3.a COMMUNICATION SKILLS


E.3.b EDUCATION


E.3.b - X.1.0 EDUCATION - HISTORY


E.3.b - X.1.a EDUCATION - CLASSICS

Pharmacy in the 21st century: planning for an uncertain future; the proceedings from a strategic planning conference for the professional pharmacy community in cooperation with The Institute


E.3.b - X.5 EDUCATION - DIRECTORIES


E.3.b - X.7 EDUCATION - WEB SITES


E.4.0 PROFESSIONAL PRACTICE


E.4.0 - X.3 PROFESSIONAL PRACTICE - LAWS, LEGISLATION, REGULATIONS, AND ETHICS


E.4.0 - X.7 PROFESSIONAL PRACTICE - WEB SITES

Martindale's the "Virtual" - pharmacy, pharmacology & toxicology center. Jim Martindale, 1994-. URL: http://www.martindalecenter.com/Pharmacy.html
E.4.a COMMUNITY PHARMACY

ISSN: 0164-9914. $100.00.


E.4.a - X.7 COMMUNITY PHARMACY - WEB SITES


E.4.b HEALTH-SYSTEM PHARMACY AND INSTITUTIONAL PHARMACY


Comprehensive accreditation manual for hospitals (CAMH): the official handbook. Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations, loose-leaf, updated quarterly. ISBN: 9781599401263. $375.00; updates, $280.00; both, $625.00.

Comprehensive accreditation manual for long term care (CAMLTC). Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations, 2008. ISBN: 9781599401294. $265.00; supplement, $200.00; both, $450.00.

E.4.b - X.3 HEALTH-SYSTEM PHARMACY AND INSTITUTIONAL PHARMACY - LAWS, LEGISLATION, REGULATIONS, AND ETHICS


E.4.b - X.4.a HEALTH-SYSTEM PHARMACY AND INSTITUTIONAL PHARMACY - QUALITY ASSURANCE


E.4.b - X.5 HEALTH-SYSTEM PHARMACY AND INSTITUTIONAL PHARMACY - DIRECTORIES


E.4.b - X.7 HEALTH-SYSTEM PHARMACY AND INSTITUTIONAL PHARMACY - WEB SITES


E.4.c HOME HEALTH CARE

E.4.c-X.1.a HOME HEALTH CARE - CLASSICS


E.4.d MANAGED CARE


E.4.d - X.7 MANAGED CARE - WEB SITES

Academy of Managed Care Pharmacy. Academy of Managed Care Pharmacy, 1989-.
URL: http://www.amcp.org/

URL: http://www.cms.hhs.gov/

URL: http://www.kff.org/

E.4.e DRUG USE EVALUATION


X.1.0 HISTORY


X.1.0-X.1.a HISTORY - CLASSICS


X.1.0 - X.2.a HISTORY- BIBLIOGRAPHIES AND LITERATURE GUIDES


X.1.a CLASSICS


**X.2.0 INFORMATICS**


**X.2.a BIBLIOGRAPHIES AND LITERATURE GUIDES**


**X.2.a - X.7 BIBLIOGRAPHIES AND LITERATURE GUIDES - WEB SITES**

MacCara, Mary E.; and Foy, Elizabeth. Drug information resources: a guide for pharmacists. Dalhousie University College of Pharmacy, 1999-. URL: http://dir.pharmacy.dal.ca/

**X.2.b HANDBOOKS AND DICTIONARIES**


Consolidated list of products whose consumption and/or sale have been banned, withdrawn, severely restricted or not approved by governments. 8th ed. New York: United Nations, 2003. ISBN: 9789211302301. $125.00.


IDENTIDEX system. Greenwood Village, CO: Thomson MICROMEDEX, 1974. MICROMEDEX products available to schools of pharmacy without charge when limited to teaching purposes, not clinical use. Available on CD-ROM and online.


X.2.b - X.7 HANDBOOKS AND DICTIONARIES - WEB SITES


United States Pharmacopeial Convention. USP verified. USP. URL: http://www.usp.org/USPVerified/

X.2.c EVIDENCE-BASED PRACTICE


X.3 LAWS, LEGISLATION, REGULATIONS, AND ETHICS


X.3 - X.7 LAWS, LEGISLATION, REGULATIONS, AND ETHICS - WEB SITES


*U.S. Food and Drug Administration. Rockville, MD: FDA. URL: http://www.fda.gov/

X.4.0 METHODOLOGY, STATISTICS, AND RESEARCH DESIGN


X.4.a QUALITY ASSURANCE


X.5 DIRECTORIES


X.5 - X.7 DIRECTORIES - WEB SITES


Bourne, David. Virtual library pharmacy. 1999-. URL: http://www.pharmacy.org/

Temple, David J. The World list of schools of pharmacy. 1996-. URL: http://www.cf.ac.uk/phrmy/subsites/WWW-WSP/