

Physics Collection Development Policy

1981, revised: August 1989; December 1990; August 2000

I. Academic Programs Served

A. Departments.

The principal user of the physics collection is the Department of Physics. Other departments making use of the collection include Biological Sciences, Chemistry, Geology, Mathematical Sciences, Geography, and the College of Engineering and Engineering Technology. The science requirement of the University's general education program can be met through several courses offered by the Physics Department. Courses are also available for the Honors Program, a minor in physics, and the pre-professional programs: medicine, dentistry, veterinary medicine, optometry, podiatry, pharmacy and engineering. The department also offers a pre-engineering program.

B. Degrees Offered in the subject area:

1. Bachelor of Science (B.S.) with a major in physics in one of the six areas of emphasis: professional physics for graduate study, secondary school teaching, physics for general science teaching, energy, and acoustics.
2. A B.S. with a minor in physics is also offered.
3. A combined 5-year program with the University of Illinois that leads to a B.S. degree in physics from NIU and an engineering degree from UIUC is also offered.
4. The Master of Science with a major in physics is offered with one of three areas of specialization: basic physics, applied physics, physics teaching.
5. The Ph.D. degree is offered with one of these areas of specialization: high energy physics, materials science, and acoustics.

II. Clientele Served

The collection's primary users are the graduate and the undergraduate students and faculty of the Department of Physics.

Undergraduate students taking physics courses that are required by the Departments of Chemistry, Geology, Biological Sciences, Technology, Electrical Engineering, Industrial Engineering, and Mechanical Engineering, as well as, those in Geography are part of the clientele. Undergraduate students taking physics to fulfill the general education requirement in science and students in the pre-professional programs constitute additional users. Graduate students and faculty from all the departments mentioned above, especially those in interdisciplinary areas, such as, biophysics, math-physics, geophysics, physical chemistry and engineering are also active users of this collection. General public interest focuses on introductory level works in physics, publications on energy sources and conservation, and general works in astronomy and acoustics.

Interdisciplinary interest resides in the related sciences (e.g. biophysics, geophysics, physical chemistry), biology, mathematics, geology, chemistry, geography, and electrical and mechanical engineering.

III. General Collection Policy Considerations

A. Languages.

English is the primary language of the collection. German and Russian language materials will be obtained selectively when English translations are not available. Materials in other languages or their translations will be collected on a highly selective basis.

B. Chronological emphasis.

Emphasis is on current scholarship. Works of an historical nature, not in direct support of current teaching or research emphases, will be obtained on a highly selective basis. Purchase of retrospective volumes (paper or electronic) of journals will be done selectively.

C. Geographical limitations.

Not applicable.

D. Formats of materials collected.

Both serials and monographic works will be obtained: journals, monographs, monographic serials, reference works (dictionaries, encyclopedias, handbooks), Government reports, collections of scientific data, conference proceedings and society publications will be obtained on a selective basis, as well as, dissertations from other institutions. Electronic resources such as bibliographic databases, full-text journals and books will be obtained when resources permit.

E. Publication dates.

Emphasis is on materials published within the last ten years. Retrospective volumes will be purchased preferably in their original printed or electronic form rather than in microforms or reprints.

F. Special Considerations.

None.

IV. Physics Collecting Levels

- Subject: Astronomy
LC Class(es): QB 1 -991
CL: 3b
AC: 3b
GL: 3b
PC: 2
- Subject: Physics, General
LC Class(es): QC 1 -29,
QC 54 - 114
CL: 3c
AC: 3c
GL: 3c
PC: 2

- Subject: Study and Teaching
 LC Class(es): QC 30 - 53
 CL: 3c
 AC: 3c
 GL: 3c
 PC: 2
- Subject: Mechanics (Descriptive, Experimental, Analytical and Applied)
 LC Class(es): QC 120 - 168,
 QA 801 -939,
 TA 349 - 360
 CL: 4
 AC: 4
 GL: 4
 PC: 2
- Subject: Atomic and Molecular Physics (Solid State Physics, Statistical Physics, Wave Phenomena, Quantum Mechanics)
 LC Class(es): QC 170 -220
 CL: 4
 AC: 4
 GL: 4
 PC: 2
- Subject: Acoustics and Sound, Musical Acoustics, Building Acoustics and Engineering Acoustics
 LC Class(es): QC 221 - 246,
 NA 2800,
 ML 3805 - 3817,
 TA 365 - 367
 CL: 4
 AC: 4
 GL: 4
 PC: 2
- Subject: Heat, Thermodynamics, Heat Transfer
 LC Class(es): QC 251 - 338.5
 CL: 3c
 AC: 3c
 GL: 3c
 PC: 2
- Subject: Light and Optics, Radiation Physics, Mössbauer Effect
 LC Class(es): QC 350 - 496.9
 CL: 4
 AC: 4
 GL: 4
 PC: 2

- Subject: Electricity, Magnetism, Plasma Physics, Semiconductor Physics
 LC Class(es): QC 501 - 766
 CL: 4
 AC: 4
 GL: 4
 PC: 2
- Subject: Nuclear and Particle Physics, Nuclear Energy, Atomic Energy, Elementary particles,
 Nuclear Interactions, Radioactivity Radioactive Substances
 LC Class(es): QC 770 - 798,
 QC 721
 CL: 4
 AC: 4
 GL: 4
 PC: 2
- Subject: Geophysics,
 Geomagnetism,
 Atmospheric Physics
 LC Class(es): QC 801 - 849
 CL: 3c
 AC: 3c
 GL: 4
 PC: 2
- Subject: Science Teaching
 LC Class(es): LB 1585 - 1585.5,
 Q 181.A1 - 183.9,
 Q 184 - 209
 CL: 4
 AC: 3c
 GL: 4
 PC: 2
- Subject: Solar Energy
 LC Class(es): TJ 810,
 TH 7,
 TH 7145,
 TH 7413,
 TH 6561.7,
 TK 2960,
 TL 1100 - 1102
 CL: 3b
 AC: 3b
 GL: 3c
 PC: 2
- Subject: Electronics: General, Lasers, Semiconductors, Superconductors, Sound Systems
 LC Class(es): TK 7815 - 7866,
 TK 7871.3 - 7871.35,

TK 7871.85 - 7871.99,
TK 7872.S4 and .S8,
TK 7881.4 - 7881.9,
TK 8320 - 8360

CL: 3c
AC: 3c
GL: 4
PC: 2

- Subject: Nuclear Technology Safety, Nuclear Reactors, Chemical Processes
LC Class(es): TK 9151.4 - 9401
CL: 3b
AC: 3b
GL: 3c
PC: 2
- Subject: Materials Science
See also under:
Electricity and Electronics
LC Class(es): TA 401 - 403,
TA 417 - 418.5,
TA 459 - 463,
TA 478 - 485,
TN 690 - 693

CL: 4
AC: 3c
GL: 4
PC: 2

Total

B. Special Observations

- Notations:
- CL = Current Collection
- AC = Acquisition Commitment
- GL = Collection Goal
- PC = Preservation Commitment

V. Other Resources

At NIU, the main collection of physics materials is located in Faraday Library. Complementary and general use material is located in Founders Memorial Library.

Off-Campus: Resources of the University of Chicago, Northwestern University, Illinois Institute of Technology, University of Illinois at Urbana/Champaign, University of Illinois at Chicago, Fermi National Laboratory, and Argonne National Laboratory can be obtained through Information and Delivery Services (IDS).

VI. Special Remarks

Areas of Research: computational physics, electronic structure of solids, elementary particles, high energy physics, high T superconductivity, lattice vibrations, magnetic and optical properties of materials, Mössbauer Spectroscopy, musical acoustics, noise control, photoelectron spectroscopy, physics education, solid state theory, super symmetry, surface physics, synchrotron radiation physics, transition metals, vibration analysis, x-ray scattering, and x-ray spectroscopy.