

Ⓜ  
#3

G L A S S B O R O        S T A T E        C O L L E G E

PHYSICAL SCIENCES DEPARTMENT

PURPOSE AND PLACE OF PHYSICAL SCIENCES

AT GLASSBORO STATE COLLEGE

AND IN SOUTHERN NEW JERSEY

Glassboro State College serves the seven southern counties of New Jersey with additional students coming from the rest of the state, Pennsylvania, Delaware, and some fifteen foreign countries. Glassboro is strategically situated in relation to an already well established and rapidly expanding chemical and glass industry. Other industries, many with research and development divisions, are also spread through the region. The Physical Sciences Department of Glassboro State College serves these industries. High school students hired by these companies soon learn that the only route for advancement is by way of further education in the sciences with the baccalaureate degree being an initial requirement. With its strategic position, well equipped laboratories, and excellent staff, Glassboro is ready to and, in fact already does, serve these employees. At the same time we are upgrading science teaching in both the elementary and secondary schools by providing in-service teachers a convenient place and opportunity to further their science education, while at the same time we graduate well trained science teachers.

The department also provides service courses for other departments such as Life Sciences, Mathematics, and Home Economics. General education physical science courses are presented which help support the liberal education of the Liberal Arts and Sciences students as well as rounding out the education of a broad spectrum of students from other divisions within the college.

There is an increasing number of inquiries from high school students. County and community college graduates are coming to us in increasing numbers, and with steadily improving backgrounds.

Without the physical sciences programs of Glassboro State College, there would be a great gap in the post-secondary education opportunities for the people of southern New Jersey.

PAD:Y

GLASSBORO STATE COLLEGE

DIVISION OF LIBERAL ARTS AND SCIENCES

DEPARTMENT OF PHYSICAL SCIENCES

- A. Programs Offered: Chemistry  
Physical Sciences with  
Concentrations in: Chemistry  
Geology  
Physics

B. Purpose of the Programs:

The Chemistry Program is the standard A.C.S. approved type program. We do not as yet have A.C.S. certification; it is hoped to have this within another year. This course prepares the student for a career in industry or government, or the student can go on to graduate school. By careful scheduling of the advanced courses in the evening, it is now possible for a person working in industry to earn a B.A. in chemistry. There are many chemistry laboratories in southern New Jersey. High school graduates get jobs as technicians, and soon learn that the only way to advance is to have a bachelor's degree in chemistry. We are making it possible for this to be done.

The Physical Sciences Program with its three alternate concentrations, and 28-29 semester hours of free electives permits the student to build a program to suit his/her own needs or desires. Teacher certification can be earned by applying the free electives to professional courses. The program prepares the student for medical, dental, veterinarian and optometry schools. It also provides preparation for work in industry, environmental science, and federal, state and municipal governments.

C. Current Enrollment:

I. Students signed up by program and year

(a) Chemistry, L. A.

1975	-	13
1976	-	14
1977	-	5
1978	-	9

(b) Physical Sciences Program

(1) Chemistry Concentration

1975	-	3
1976	-	2
1977	-	0
1978	-	0

(2) Geology Concentration

1975	-	2
1976	-	2
1977	-	0
1978	-	2

C. Current Enrollment (continued)

(b) Physical Sciences Program (continued)

(3) Physics Concentration		
1975	-	11
1976	-	5
1977	-	4
1978	-	1

It seems that we get most of our majors in the Physical Science Program as transfer students from the county and community colleges. The enrollment in this program is surprising in that the program is new and, although we have advertised it in the county and community colleges, the word does not spread very rapidly.

II. Enrollment by sections 1973-74, 1974-75 (Spring 1975 is incomplete, being based on initial registration).

<u>Course</u>	<u>Fall 1973</u>	<u>Spring 1974</u>	<u>Fall 1974</u>	<u>Spring 1975</u>
0414.348.01 Intro. Biochemistry	16		12	
0414.538.01 Biochemistry (Grad.)	15			
0420.100.01 Intro. Natural Resourc.	34	47		71
.02 " " "	47	35		22
.03 " " "	33	31		
.04 " " "	37			
0418.360.01 Marine Biology	1		12	
0834.600.01 Seminar in Sci. Tch. I				3
0834.601.01 Seminar in Sci. Tch. II				
1901.110.01 Prin. Physical Science	29	24	22	22
.02 " " "	23	25	21	24
.03 " " "	18		14	28
1901.310.01 Ind. Study, Phys. Sci.	4			
.02 Astronomy		2		
1902.200.01 Physics I (with calc.)	14		16	
.02 " " (no calc.)	25			
.03 " " " "	25			
1902.201.01 Physics II (with calc.)		12		5
.02 " " (no calc.)		17		
.03 " " " "		23		
1902.202.01 Physics I (no calc.)			25	
.02 " " " "			34	
.03 " " " "			24	
1902.203.01 Physics II (no calc.)				31
.02 " " " "				18
.03 " " " "				30
1902.300.01 Physics III	4		6	

<u>Course</u>	<u>Fall 1973</u>	<u>Spring 1974</u>	<u>Fall 1974</u>	<u>Spring 1975</u>
1902.305.01 Optics and Light		3		
1902.320.01 Selected Topics in Physics		11		
1902.400.01 Electron Physics		4		7
1902.425.01 Math. Physics				9
1902.563.01 Atomic Physics	3			
1904.465.01 Radiation Science	10		6	
1905.301.01 Environ. Chem. & Pollution	28			
1905.302.01 General Chemistry	25	25	19	23
1905.440 Intro. Research I (Chem.)	1	0		
1905.441 " Research II (Chem.)	1	0		
1905.450 Seminar I, Chem.		2	3	
1905.451 Seminar II, Chem.				2
1906.100.01 Inorg. Chem. I	23	31	21	24
.02 " "	24		19	
.03 " "	21		22	
.04 " "	22		22	
.05 " "			26	
1906.101.01 Inorg. Chem. II	9	10	16	24
.02 " "		11		15
.03 " "		20		18
.04 " "		22		18
1906.300.01 Inorg. Chem. III		5		10
1907.300.01 Org. Chem. I	24	12	17	
.02 " "	11		23	
.03 " "	25		36	
.04 " "	28			
1907.301.01 Org. Chem. II		19		25
.02 " "		9		24
.03 " "		19		18
.04 " "		16		
1907.465.01 Adv. Org. Chem. I		16		
1907.470.01 Qual. Org. Analysis				10
1908.400.01 Physical Chemistry I	8		15	
1908.401.01 Physical Chemistry II		5		8
1908.402.01 Physical Chem. Lab I	8		13	
1908.403.01 Physical Chem. Lab II		5		6
1908.501.01 Indep. Study, Chem	2			
1908.545.01 Quantum Mechanics				6
1909.350.01 Quantitative Analysis	11	15	10	6
.02 " " "		2		
1909.410.01 Inst. Methods			6	
1911.310.01 Astronomy	37	28	24	26
.02 " "	20	21	34	30
.03 " "	23	27	23	38
.04 " "	26	19	11	36
.05 " "	35	41	31	32
.06 " "	42	37	32	33
.07 " "	38	37	40	
.08	22		32	
.09	24			

<u>Course</u>	<u>Fall 1973</u>	<u>Spring 1974</u>	<u>Fall 1974</u>	<u>Spring 1975</u>
1911.311.01 Methods & Techniques of Obs. Astronomy			22	14
1913.300.01 Meteorology	32	33	30	24
1914.100.01 Geology I	23	13	13	10
.02 " "	21		15	
1914.100.01 Geology II		11		9
.02 " "		8		
1914.350.01 Geomorphology			3	
1914.400.01 Ind. Study, Geology		3	1	
1914.523.01 Geology of New Jersey			10	
1917.310.01 Prin. Earth Science	37	33	37	40
.02 " " "	18	33	37	35
.03 " " "	38	36	37	35
.04 " " "	44	25	38	39
.05 " " "	33	45	13	35
.06 " " "	32	50	24	40
.07 " " "		38	34	
.08 " " "			33	
.09 " " "			35	
1917.315.01 Geology and Man	25	26	15	16
1918.325.01 Intro. Invert. Paleontology		9		
1918.400.01 Ind. Study, Paleontology		1		
1919.330.01 Mineralogy				9
1919.428.01 Intro. Physical Oceanography		15	13	

D. Future Developments:

As already mentioned, we are working on A.C.S. accreditation. The first steps have been taken, certain corrections and changes suggested by the A.C.S. accreditation committee either have been completed, or are being worked on. Our greatest need is for research space. Space in the building is at a premium. There are two adjoining rooms on the third floor which we plan to convert to chemistry laboratory and/or supportive space. There is still debate as to precisely what kind of laboratory space should be developed.

Currently graduate work at Glassboro State College is confined to Teaching of Science in the Secondary Schools, (Physical Sciences). A number of graduate courses are offered to support this program. It is hoped that we will be permitted to offer a Liberal Arts and Sciences Chemistry masters program. There is a potential clientele in the research and development laboratories in southern New Jersey, as well as among municipal and county employees.

D. Future Developments (continued)

The Physical Sciences Program is so new that it is still in its formative stages. We wish to stabilize the program and its three concentrations before considering further developments. We are developing a proposal for a Geology Major which is already embodied in the Physical Sciences - Geology Concentration in all but name.

As with Chemistry, the lack of space is the chief problem. We have succeeded in getting a second laboratory-class room for the Earth-Space Sciences classes. It is currently being used exclusively for astronomy. The room next to this room has been designated a storeroom, primarily for the various globes used in astronomy. It is hoped that moneys may be made available in the not too distant future for shelving and cabinets in the storeroom, and storage cabinets for fossils in the room now being used for astronomy. This would relieve some of the pressure of gross overuse in the Geology Laboratory and prep room.

It is planned that we will acquire a larger dome for the Olen Self Memorial Observatory so that the 10-inch reflector telescope can be used more efficiently.

We plan to meet with high school science teachers and introduce our department to them -- we are still tainted with the stigma of being a teachers' college, and many of the science teachers are graduates of Glassboro when science was almost minimally presented. We must do missionary work. We have met with industry and the county and community colleges, and convinced them that we have much to give them.

E. Library Resources:

In addition to the appended lists of abstracts and journals held by the Savitz Resource and Learning Center (hereinafter, The Library). Glassboro State College, thanks to a gift by DuPont, has probably the best and most extensive chemistry library in New Jersey south of Princeton. Thanks to the Library using the Library of Congress cataloging, it is impossible to observe how extensive the holdings in the other areas are. In the fourteen years I have been here, I have been steadily recommending the purchase of books to enlarge and update the Geology holdings. Most of these purchases have been made, and represent several hundred volumes. The Physics and Chemistry Divisions have been doing the same thing, in their respective areas, with the result that our library is more than adequate for undergraduate study.

Because of the recent change to a secondary school teachers college, the Library did not begin to be built up in the sciences until about 1965. As a result, the Library is lacking some of the older classic publications. Gifts such as the one from DuPont do fill in some of the gaps periodically.

Journals Held by the Library:

American Chemical Society Journal  
Analytical Chemistry  
Biochemistry  
Canadian Journal of Chemistry - Physical and Organic  
Chemical and Engineering News  
Chemical Reviews

E. Library Resources (continued)

Chemical Communications  
 Chemical Society Perkins Transactions (Physical Organic Chemistry)  
 Chemical Society - Dalton Transactions (Inorganic Physical Chemistry)  
 Chemical Society Perkins Transactions (Organic Chemistry)  
 Chemical Society Reviews  
 Chemistry  
 Environmental Science and Technology  
 Franklin Institute Journal  
 Impact of Science on Society  
 Inorganic Chemistry  
 Journal of Chemical Education  
 Journal of Chemical Physics  
 Journal of Chromatographic Science  
 Journal of Inorganic and Nuclear Chemistry  
 Journal of Organic Chemistry  
 Journal of Physical Chemistry  
 Tetrahedron  
 Tetrahedron Letters

Acoustical Society of America Journal v. 26 - 1954 to present  
 American Association of Petroleum Geologists  
     Bulletin v. 56 - 1972 to present  
 American Geophysical Union Transactions v. 53 - 1972 to present  
 American Journal of Physics v. 15 - 1947 to present  
 American Journal of Science s. 1 v.1-s.2 v.5  
     1818-1848 MF  
     v. 52 - 1967 to present

American Mineralogist  
 Association of Engineering Geologists  
     Bulletin v. 6 - 1969 to present  
 Bulletin of the Atomic Scientists v. 1 - 1945 to present  
     In part on microfilm  
     v. 5 - 1963 to present  
 Contemporary Physics v. 1-36 1890-1925  
 Geological Society of America Bulletin v. 74 - 1963 to present

Geophysics v. 37 - 1972 to present  
 Journal of Applied Physics v. 41 - 1970 to present  
 Journal of Chemical Physics v. 59 - 1974 to present  
 Journal of Geological Education v. 21 - 1973 to present  
 Journal of Geology v. 23 - 1915 to present  
     In part on microfilm

Journal of Geophysical Research v. 77 - 1972 to present  
 Journal of Paleontology v. 1 - 1927 to present  
     In part on microfilm

Petroleum Geology v. 9 - 1965 to present  
 Physics Education v. 3 - 1968 to present  
 Physics Teacher v. 1 - 1963 to present  
 Quaternary Research v. 1 - 1970 to present  
 Reviews of Modern Physics v. 42 - 1970 to present  
 Rocks and Minerals v. 41 - 1966 to present

E. Library Resources (continued)

Indexes and Abstracts - Physics and Geology

Abstracts of North American Geology	1966-1971
Applied Science and Technology Index	v. 1 - 1958
Biological Abstracts	v. 45 - 1964
Biological and Agricultural Index	v. 18 - 1962
Chemical Abstracts	v. 1-57 1907-1962 v. 72 - 1970
Current Contents: Physical and Chemical Sciences	Current 3 years
Dissertation Abstracts International Section B. Sciences and Engineering	v. 1 - 1947 - In part on microfilm
Geological Abstracts	v. 1-6 1953-1958
Geophysical Abstracts	n. 216-299 1965-1971
Monthly Catalog of U. S. Government Publications	1893 -
Nuclear Science Abstracts	v. 19 - 1965
Physics Abstracts	v. 73 - 1970

F. Staff:

Vitae for each staff member are appended. To summarize the staff:

Chemistry

- Rhys H. Craver, M. S. University of Delaware 1962.  
Returning to University of Delaware  
to continue work toward Ph.D. in  
Organic Chemistry.
- Lee A. Dinsmore, Ph.D., University of Texas, 1970  
Physical Chemist
- Alfred M. Jenkins, Ph.D., Oklahoma State University, 1952.  
Organic Chemistry
- George M. Leder, Ph.D., Rutgers University, 1970.  
Biochemistry - Organic Chemistry
- Michael D. Miller, Ph.D., University of Kentucky, 1974.  
Analytical Chemistry
- Charles W. Schultz, Ph.D., University of Michigan, 1969.  
Inorganic Chemistry
- Teaching part-time Spring 1975:
- Philip S. Landis, Ph.D., Northwestern University, 1958.  
Organic Chemistry

F. Staff (continued)

Geology

- Paul A. Dike, M. A. Bryn Mawr College, 1951 (77 graduate credits beyond the M. A. at Johns Hopkins University and Rutgers University)  
General Geology - Mineralogy - Petrography
- Donald A. Farnelli, M. Ed. Temple University, 1964. Has graduate credits from University of Washington (Oceanography), Rutgers University, Fisk University, Rice University. Should have his Ph.D. in June, 1975.
- Mahmoud Otooni, M. A., Columbia University, Geology 1959.  
M. S., Syracuse University, Solid State Science and Engineering, 1970.  
Should complete Ph.D. at University of Maryland, June, 1975, in Materials Science.
- C. Joseph Waring, M. S., SUNY Oneonta, 1965  
Working toward Ph.D. at Rutgers University.
- Donald W. Zalusky, M. A., University of Missouri, 1957.  
Ph.D. in Micropaleontology will be completed, June, 1975, University of Delaware.

Meteorology - Astronomy

- Wellington C. Woods, M. Ed., Rutgers University, 1961.  
Working on D. Ed. in Earth Science,  
Rutgers University

Astronomy - Physics

- Keith R. Honey, Ph.D., University of Missouri-Columbia, 1972.  
Astro-Physics - Physics

Physics

- Alexander Borowec, D. Ed., Temple University, 1969  
Physics
- Lawrence J. Delaney, D. Ed., University of Pennsylvania, 1966.  
Physics
- Leon P. Goldberg, M. S., New York University, 1950.  
Working on Ph.D. in Physics at Temple University.

G. Facilities:

Chemistry: Chemistry has four laboratories for teaching. On the third floor of Bosshart Hall there are one organic, one inorganic, one instrumental chemistry, and one physical chemistry-analytical chemistry laboratory. Between the organic and inorganic laboratories are a balance room and a "prep" room. Between the instrumental laboratory and physical chemistry laboratory is a stock-room servicing both areas. In addition to this a room across from the laboratories is used as a storeroom for those instruments used only occasionally. Also, on the third floor is a small student laboratory housing a T-60 N.M.R. Spectrometer. Two student-teacher research laboratories are also located on the third floor. On the second floor there is a storeroom which is used in part for dead storage by chemistry. Class rooms with demonstration tables are available for recitation and lecture.

Field trips are conducted to the many nearby research facilities in the Delaware Valley industrial complex.

Earth and Space Sciences: (Includes astronomy, geology, meteorology, oceanography)

In the penthouse a room has been created which serves not only as storage for telescopes with ready access to the roof, but also a dark room.

The Olen Self Memorial Observatory on the roof houses a 10-inch Newtonian telescope with mechanical drive. This observatory is equipped for summer-winter use.

The astronomy lectures are housed on the second floor of Bosshart Hall. This room is equipped with tables and is adjacent to the storeroom mentioned as being used for dead storage by chemistry. In here are stored most of the globes, both celestial and world.

Astronomy makes extensive use of the Fels Planetarium and Franklin Institute in Philadelphia.

Geology, along with meteorology and oceanography is housed in one room on the first floor of Bosshart Hall. The oceanography is actually presented in a neighboring laboratory belonging to Life Sciences, but designed, in part for oceanography. In addition to the laboratory there is an adjoining store and prep room. Needless to say, the latter is hideously crowded and cluttered. As mentioned elsewhere, when funding becomes available, shelving and cabinets will be purchased for the second floor storeroom and laboratory. Some of the geology can then move to the second floor and reduce the crowding on the first floor.

Glassboro State College has been a part of the national network of microweather stations (28-3291-2) since 1955. This provides a valuable teaching tool for meteorology. More recently Glassboro also became one of the air-quality monitoring stations.

The New Jersey Marine Sciences Consortium facilities at Seaville are available for the use of Glassboro students in oceanography as well as other areas of the physical sciences. Certain features of the Environmental Education Center at White's Bog are also available.

G. Facilities (continued)

The libraries and museums of the universities and other institutions in Philadelphia are readily available for use by all the areas of physical sciences.

For geology, Glassboro is uniquely placed for convenient one-day trips to five physiographic provinces (Valley and Ridge, Reading Prong (Highlands in New Jersey), Triassic Lowlands, Piedmont Plateau and Coastal Plains (Inner and Outer)) with all their tremendous diversity of geological features.

Physics: Two laboratories and one connecting storage-prep room are assigned to Physics on the second floor of Bosshart Hall. One laboratory is designed for general, introductory physics courses, while the other is designed for electronic, radiation, etc. physics. There is also a dark room associated with the three physics rooms. Since the advanced physics courses have low enrollments, it has been possible to do the experimental work for optics in the dark room. At the moment, we are not sure what will be done in the event (remote) that more than four or five students sign up for optics.

Appended are inventories of the major equipment and teaching aids available in the Physical Sciences Department.

H. Inventory:

Astronomy - Laboratory equipment and teaching aids

- 1 Moon globe w/surface features
- 1 Solar system model - geocentric
- 1 Solar system model - heliocentric
- 1 Celestial globe - transparent
- 1 Celestial globe - illuminated
- 1 Trippensee planetarium
- 28 Celestial globes - opaque
- 19 Earth globes w/sun ray and seasonal indicators
- 1 Retrograde motion model, motor driven
- Assorted Plücker tubes w/power sources (5000 volts)
- Transmission diffraction gratings
- 1 Light meter, 0-100 foot candles
- 6 Model sextants
- 1 High power light source - PSSC
- 1 High power light source w/transformer (1) Cenco
- General astronomy slides (13 carousel trays)
- General astronomy slides - Paul Hodge set (4 carousel trays)
- Assorted transparencies
- Sky and Telescope (1969 - 1974)
- Assorted film loops
- Assorted films
- 1 Newtonian reflector w/mount - 4.5 inch
- 1 Newtonian reflector w/mount - 6 inch
- 1 Refractor w/mount - 75 mm
- 2 Questar telescopes w/mounts and cameras - 3.5 inch
- 1 Binoculars w/mount - 10 X 80
- 1 Newtonian reflector - 10 inch w/permanent mount in  
Olen Self Observatory
- Assorted telescope mounts
- 1 Refractor - 102 mm (unmounted)
- 1 Refractor - 4 inch (unmounted)
- 1 Newtonian reflector - 8 inch (unmounted)

Plus assorted lenses, eye pieces and other optical accessories.  
Also films, film loops and slides.

H. Inventory (continued)

Chemistry Division Supporting Facilities

Instrumentation:

1	Varian T-60 Nuclear Magnetic Resonance Spectrometer
1	Perkin-Elmer 290 B Atomic Absorbtion-Emission Spectrophotometer
1	Hewlett-Packard 700 Gas Chromatograph with thermal conductivity detector
1	Hewlett-Packard 700 Gas Chromatograph with flame ionization detector and temperature programmer
1	Sargent-Welch model XVI Polarograph
1	Beckman DB-G Grating Spectrophotometer
1	Beckman DB Prism Spectrophotometer
1	Perkin-Elmer 710 Infrared Spectrophotometer with accessories
1	Rudolph model 63 Polrimeter
1	Bausch and Lomb Spectronic 70 visible Spectrometer
4	Bausch and Lomb Spectronic 20 visible Spectrometer
1	Corning AG-11 Water Still
1	Gelman Delux Electrophoresis Chamber
1	Turner Fluorometer
3	Fisher Surface Tensiometers
4	Kontes Universal Electrode Kits
1	Heathkit 10-102 Oscilloscope
10	pH Meters
1	Sartorius 2604 Semi-micro Balance with special balance table
3	Double Pan Analytical Balances
11	Sartorius Single Pan Analytical Balances
1	Portable Vacuum Line Assembly
1	Temperature Controlled Vacuum Dessicator
1	Immersion Cooling Unit
2	Sartorius Top Loading Balances
2	Thomas-Hoover Melting Point Apparatus

Other Supporting Facilities

	Sadtler N.M.R. and I.R. Standard Spectra
1	Ultrasonic cleaner
3	Desk Top Electronic Calculators
Several	Hewlett Packard and Texas Instruments Pocket Electronic Calculators
1	Harco Industries 8,000 lb. press
1	Lab-line explosion-proof Refrigerator
1	Fixed vacuum rack
1	Glove box
1	Scotsman Ice Machine
1	Bantam Demineralizer

Several assorted potentiometers, resistance boxes, meters, VTVM's, power supplies, other electronics accessories, constant temperature baths, centrifuges, manometers, triple beam balances, lecture and laboratory demonstration units, drying ovens, heating mantles, hot plates, magnetic stirrers, vacuum pumps, dewars and safety hoods.

H. Inventory (continued)

Geology:

- 10 Wide-field zoom binocular Bausch & Lomb microscopes
- 6 High intensity microscope illuminators
- 8 Petrographic microscopes (Bausch & Lomb). (1 more available  
in chemistry)
- 8 Lamps
- 1 Vertical illuminator adaptor
- 1 Mechanical stage
- 12 Ward's student mini-sets (old)
- 17 Ward's Penn State Univ. Ext. Min. Sets (new)
- 24 Student mineral working sets (65 min. per set)
- 1 Instructor's set 210 wooden 2-1/2" crystal models
- 24 Ward's 100 American rocks student sets
- 1 Ward's 100 American rocks instructor's set (1-100)
- 1 Ward's supplemental instructor's rock set (101-300)
- 1 Ward's 100 American rocks thin sections
- 1 Ward's Stratigraphic set (1-190)
- 1500 Assorted thin sections
- 1 Ward's Economic Geology Set
- 1 Ward's Survey of Fossil and Recent Invertebrates
  
- Several supplemental collections of fossils plus fossils collected  
by staff and students.
  
- Extensive teaching collection of minerals acquired by staff,  
gift and purchase.
  
- 2 Collections of New Jersey rocks - 1 by purchase, 1 by personal  
collecting.
- 1 Student working collection of 103 minerals = lb. lots of each
- 24 sets representative crystals
- 1 Vrieland Spectroscope
- 1 Westinghouse Electron Microscope (currently non-operative)
- 1 Diamond Slabbing Saw
- 1 Lap
- 1 Finishing bench
- 1 Craft Kiln
- 1 Drying Oven
- 1 Bausch & Lomb Abbe Refractometer
- 63 8-inch screen, 3 pans
- 1 Screen shaker
- 1 Chipmonk crusher
- 2 Explorer's alidades and plane tables, tripods, etc.
- 1 Bison sledge hammer seismometer
- Balances, mechanical soil testing equipment
- 1 Thin-section projector
- 1 Set of 7-1/2" N. J. quadrangles (try to keep a minimum of 10 of  
each in stock).
  
- Numerous other topographic and geologic maps for teaching.
- Wall maps, tectonic, geologic, physiographic
- 1 Stream table

H. Inventory (continued)

Movies

Seismicity of the Earth (B. & W. silent)

All the rest are color and sound.

Drifting of the Continents - Time-Life Films, Inc.

Planet Earth Series: McGraw-Hill Book Co.

Secrets of the Ice

The Hidden Earth

Challenge of the Oceans

Restless Earth - Indiana University

Plate Tectonic Theory - 2 reels

Surtsey Volcano - North Shore News Co., Inc.

Eruption of Kilauea - U. S. Department of Agriculture

New Jersey Shore Line - Environmental Films, Inc.

Photographs

Unknown number taken by staff and purchased.

Meteorology

1 Micro weather station (Official U. S. Weather Bureau  
station)

1 Recording wind speed and direction gauge with exhibition  
repeater

1 Barograph

1 Mercury barometer

1 Official air sampling (particulate and gas) set up

10 Sling psychrometers

Daily weather map subscription