

8-70

PROPOSAL

for

a

CHEMISTRY PROGRAM

for

LIBERAL ARTS AND SCIENCE, CHEMISTRY
SECONDARY EDUCATION, CHEMISTRY MAJOR

Rhys H. Craver
Department of Science

Proposal for Chemistry Program

I. Introduction:

This proposal is sponsored by the Science Department and is initiated by the Department Chairman, Dr. Robert Renlund, and the chemistry teaching members of this department: Prof. Rhys H. Craver, Dr. Alfred Jenkins, Dr. Jorma J. Sjoblom and Prof. Edward Steklasa. Owing to the broadness of the chemistry proposal, various members of the chemistry section will act as representatives of the Science Department in matters which pertain to the proposal. This representation will depend on class schedules and the curriculum committee schedule.

II. Department Chairman's Statement:

A. Position of the program in the departmental curricular structure

The Science Department plans a degree in each of the following areas: Biology (Implemented 1968), Chemistry, Geology, Physics
This proposal is concerned only with the Chemistry program.

B. Suggested time and scale of implementation of the plan.

The students who entered Glassboro in the Fall of 1969 were permitted to elect a major, or enter as an uncommitted student. Several have indicated a preference for Liberal Arts - Chemistry and several for Chemistry - Secondary Major. It is imperative that the Chemistry program be approved and a detailed and complete description of the program be included in the next printing of the catalog of Glassboro State College. The chemistry section of the Science Department is, therefore, requesting that the Curriculum Committee consider the proposal in the very near future; thus it can be placed in the new catalog prior to printing.

As the chemistry section offers Inorganic Chemistry I (56-100) and Inorganic Chemistry II (56-101) the first year of the program is already underway. Organic I (56-200) and Organic II (56-201) have been approved previously by the Curriculum Committee and will be implemented during the 1970-71 terms. Approval of the total program is necessary for additional courses to be offered in the Sophomore, Junior and Senior years (See "Outline for the Program" in this proposal.) Presently there are an adequate number of students in the current Science program and Junior College transfer students who have the prerequisites for, and are eager to enroll in advanced course work in chemistry and the total chemistry program.

C. Adequacy of staff and resources for implementation.

The chemistry section has adequate staff for its present offerings. Presently a new member for the section is under consideration in the field of Inorganic and/or Analytical Chemistry. As the program is implemented, it is anticipated there will be a need for additional staff members for advanced courses and student research directors. These members will be employed in specific disciplines in chemistry in awareness of the section's responsibility for a Graduate program in 1973-74.

The present facilities are adequate for the course work now being presented (1969-70). They will not be adequate for the total chemistry program. The request for additional space and facilities was presented to the administration last year (1968). Plans were presented (1965) to the administration for conversion of specified rooms and laboratories in Bosshart Hall from general classroom use

to Science use. Included in this recommendation was a conversion of Rooms 323, 324, 325 on the third floor of Bosshart Hall to a Physical/Analytical Chemistry Laboratory, Preparation Room and Instrument Room, as well as conversion of the bottom floor of Bosshart Hall to laboratories for the Biology Program. It was decided to make this a two phase operation. Biology, Phase I, has been completed. Chemistry, Phase II, is now under consideration. Implementation of a chemistry program necessitates that Phase II be completed as well as additional space be made available for instruction, as well as research. Research areas are presently non-existent (faculty or student). The section has the minimum in equipment and supplies to sustain the program. Necessary funds would have to be made available for the advanced Chemistry courses. Presently our library holdings consist of a number of Periodicals, a minimum of reference and advanced texts, and a gift from Harshaw Chemical Company, Chemical Abstracts (1907-1957) We are in the process of bringing this reference up to date. Monies have to be appropriated to increase our reference and textbook holdings.

With the implementation of the advanced courses in chemistry, it is imperative that the computer be made available, for both the faculty and advanced students for research and classroom use.

The following is a list of the facilities needed for a chemistry program, presented to the administration in 1968:

TO: Dr. Stanton B. Langworthy
Mr. James Judy
Mr. Walter Campbell

CHEMISTRY

<u>Current Use -</u>	<u>Room No.</u>	<u>Student Stations</u>	<u>Rooms</u>
Organic	319	24	
Inorganic	322	24	
Storage and Stock	321		
Balances	320	10	
Research	308	1	

Additional facilities needed:

Ice machines			
Analytical lab		24	1
Instruments and research		24	1
Physical Chemistry		24	1
Organic synthesis		24	1
Inorganic synthesis and prep room		24	1
Biochemistry		24	1
Central Stock Room			1
Radioisotopes room		3	1
Acids, bases, solvents and spirits		1	1
Library		25 - 50	1
Lecture Hall		250 - 300	1
Theory, recitations, lecture, etc.		30 - 40	6
Faculty and students research areas (min. 225 ft. each)		2	12 - 15
Glassblowing lab		24	1
Machine shop		2 - 4	1
Gravity flow distillation unit			

CHEMISTRY PROGRAM - Liberal Arts and Science

Freshman:

<u>Course No.</u>	<u>Course</u>	<u>Cr.</u>	<u>Course No.</u>	<u>Course</u>	<u>Cr.</u>
56-100	Gen. Inorganic I	4	56-100	Gen. Inorganic II	4
65-121	Mathematics II Pre-Calc.	3	65-130	Calculus I	4
28-100*	Language (German Pref.)	3*	28-101	Language II Humanities	3
	Communications-English	3		Communications-English	3
	Health & Phys. Ed.	1.5		Health & Phys. Ed.	1.5
		<u>14.5</u>			<u>15.5</u>

*Individuals with a language background can request an examination or begin the second year of study.

Sophomore:

56-200	Organic Chemistry I	4	56-201	Organic Chemistry II	4
65-131	Calculus II	4	65-132	Calculus III	4
57-100	Physics I	4	57-101	Physics II	4
	Language III or Elec.	3		Language IV or Elec.	3
	Humanities	3	56-150	Quant. Analysis	3
		<u>18</u>			<u>18</u>

Junior:

56-400	Physical Chemistry I	3	56-401	Physical Chemistry II	3
56-402	Physical Chemistry Lab I	2	56-403	Physical Chem. Lab II	2
	Social Science	3		Social Science	3
	Elective, Free	3		Elective, Free	6
	Elective, Restricted	3		Psychology	3
	Art	3			
		<u>17</u>			<u>17</u>

Senior:

56-450	Seminar I	1	56-451	Seminar II	1
56-440	Intro. to Research I	3	56-441	Intro. to Research II	3
56-410	Instrumental Methods	3		Free Elective	6
	Free Elective	3		Restricted Elective	6
	Restricted Elective	6			
		<u>16</u>			<u>16</u>

Electives: Restricted electives are chosen by students with a specific field in mind: Organic, Physical, Bio., Analytical or Inorganic Chemistry. See the following sheet for listing of electives.

CHEMISTRY PROGRAM - Secondary Education Chemistry Majors

Freshman:

<u>Course No.</u>	<u>Course</u>	<u>Cr.</u>	<u>Course No.</u>	<u>Course</u>	<u>Cr.</u>
56-100	Gen. Inorganic I	4	56-101	Gen. Inorganic II	4
65-121	Mathematics II Pre-Calc.	3	65-130	Calculus I	4
28-100	Language (German Pref.)	3*	28-101	Language II	3
05-101	Communications	3	05-102	Communications	3
	Health & Phys. Ed.	1.5		Health & Phys. Ed.	1.5
		<u>14.5</u>			<u>15.5</u>

*Individuals with a language background can request an examination or begin the second year of study.

Sophomore:

56-200	Organic Chemistry I	4	56-201	Organic Chem. II	4
65-131	Calculus II	4	65-132	Calculus II	4
57-100	Physics I	4	57-101	Physics II	4
	Language III or Elec.	3		Language IV or Elec.	3
	Humanities	3	56-150	Quant. Analysis	3
		<u>18</u>			<u>18</u>

Junior:

56-400	Physical Chemistry I	3	56-401	Physical Chem. II	3
	Arts	3		Social Science	3
	Adol.-Learning	3	14-222	Curriculum & Methods	
	Elective, Free	3		Sec. School	3
	Elective, Restricted	3		Elective, Restricted	6
	Psychology	3		Elective, Free	3
		<u>18</u>			<u>18</u>

Senior:

12.344	Student Teaching	7	17-340	Issues in Found.Ed.	3
14-332	Practicum	5		Free Elective	3
16-230	Read. in Sec. School	2	56-440	Intro. to Research I	3
			56-450	Seminar I	1
				Restricted Elec.	3
				Social Science	3
		<u>14</u>			<u>16</u>

Electives are chosen with advice of advisor.

Proposal for Chemistry Program

Note that the requirements for the first and third of the certificates are met by the above outlined program for the Secondary Chemistry majors. The second and fourth can also be achieved by a proper selection of electives.

The minimum number of semester hours of chemistry required for entrance to graduate studies in chemistry varies among institutions. The proposed programs with proper selection of electives will fulfill the necessary requirements for admission to graduate schools. The inclusion of the language requirement in the program will enhance the individual student's opportunities for graduate study.

Credit Distribution:	Stipulated by Catalogue	Provided by Program
I. General Education	60	62
A. Fundamental	30	32
1. Social Sci./Psych.	9	9
2. Humanities	12	12
3. Mathematics	3	3
4. Science	6	8
B. Derived	18	18
1. Science	0	3
2. Social Sci./Psych.	0	0
3. Other Choices	0	0
4. Humanities	0	3
5. Mathematics	0	12
C. Competence-Creative	12	12
1. Communications	6	6
2. Creative Arts	3	3
3. Health and Phys. Ed.	3	3

Liberal Arts and Science

II. Prescribed Specialization	30 maximum	30 hours
III. Supplementary Special Electives	12 minimum	12 hours
IV. Free Electives	18	18 hours

Secondary Chemistry Education

II. Specialization		
A. Science	30 maximum	22 to 27
B. Professional	24	24
III. Free Electives	12	12

CHEMISTRY OFFERINGS

- 56.100 4 S.H.
General Inorganic Chemistry
A study of the fundamental laws of chemical action, the properties, uses, and methods of preparation of the more important elements. Emphasis on atomic structure and chemical bonding.
- 56.101 4 S.H.
General Inorganic Chemistry II
Continuation of 56.100, the fundamental laws of chemical action with emphasis on atomic structure, chemical bonding, equilibrium, reaction kinetics, and the important classes of compounds. Laboratory: Instruction in basic techniques of qualitative analysis of cations and anions.
- 56.150 3 S.H.
Quantitative Analysis
The basic methods of volumetric and gravimetric analysis, with problems and classroom discussions. Prerequisite: 56.101.
- 56.200 4 S.H.
Organic Chemistry I
A systematic study of organic compounds, reactions and methods of identification. Prerequisite: 56.101.
- 56.201 4 S.H.
Organic Chemistry II
A continuation of Organic Chemistry I. Prerequisite: 56.200.
- 56.300 3 S.H.
Inorganic Chemistry I
Basic theoretical concepts of inorganic chemistry with emphasis on structure, reactions, and oxidation potentials. Prerequisite: 56.150.
- 56.400 3 S.H.
Physical Chemistry I
Lectures, discussions and problems, on the fundamental principles underlying chemistry. Prerequisite: 56.150, 65.131, 57.101.
- 56.401 3 S.H.
Physical Chemistry II
Continuation of 56.400, Physical Chemistry I. Prerequisite: 56.400.
- 56.402 2 S.H.
Physical Chemistry Laboratory I
Laboratory work in physio-chemical measurements. Prerequisite: Enrollment in 56.400.
- 56.403 2 S.H.
Physical Chemistry Laboratory II
Continuation of 56.402. Prerequisite: Enrollment in 56.401.
- 56.410 3 S.H.
Instrumental Methods
Instrumental methods in the solution of chemical problems, pH meters, emission and absorption spectrographs, polarographs, polarimeters, gas chromatography and other related physical-chemical tools. Prerequisite: 56.401.
(B - 1)

- 56.415 3 S. H.
Analytical Chemistry I
Chemical equilibrium, pH and indicators, solution, oxidation-reduction and the calculation of analytical chemistry; the reliability of measurements; theory and applications in analytical procedures. Prerequisite: 56.401.
- 56.416 3 S. H.
Analytical Chemistry II
A continuation of 56.415. Prerequisite: 56.415.
- 56.440 3 S. H.
Introduction to Research I
Individual laboratory investigation of a topic outside the scope of existing courses; laboratory and conference as required. The results of investigation will be presented in both a formal and oral report. Prerequisite: Consent of the Department Head.
- 56.441 3 S. H.
Introduction to Research II
Continuation of 56.440.
- 56.450 1 S. H.
Seminar I
Oral and written reports on topics chosen from the current literature.
- 56.451 1 S. H.
Seminar II
Continuation of Seminar I, 56.450
- 56.452 3 S. H.
Advanced Inorganic Chemistry I
Recent advances in Inorganic Chemistry including the less common elements. Prerequisite: 65.131, 56.150.
- 56.453 3 S. H.
Advanced Inorganic Chemistry II
A continuation of 56.452. Prerequisite: 56.452
- 56.456 3 S. H.
An advanced survey, classes of compounds not included in 56.200 and 56.201 are studied. Prerequisite: 56.201.
- 56.466 3 S. H.
Advanced Organic Chemistry II
Continuation of 56.465. Prerequisite: 56.465.
- 56.467 1-6 S. H.
Organic Preparations
Laboratory preparations of advanced organic compounds. Prerequisite: 56.201

- 56.470 3 S.H.
Qualitative Organic Analysis
 A laboratory course with class discussions on the separation and identification of organic compounds. Prerequisite: 56.201, 56.101.
- 56.500 1 S.H.
Glassblowing
 Laboratory instruction and practice in the construction of specialized chemical equipment.
- 56.501 1 S.H.
History of Chemistry
 A brief survey of the development of chemistry, with special emphasis on the last hundred and fifty years.
- 56.530 1-3 S.H.
Special Topics in Chemistry
 Selected topics in individual areas of chemistry. An Independent Study program for the interested students. Consent of the Instructor.
- 56.540 3 S.H.
Biochemistry I
 The chemistry of compounds important in animal organisms and the chemical aspects of life processes. Prerequisite: 56.200
- 56.541 3 S.H.
Biochemistry II
 A continuation of Biochemistry I, 56.540.
- 56.542 2 S.H.
Biochemistry Laboratory I
 Studies of biologically active substances including biochemical preparations and analytical methods. Prerequisite: Enrollment in 56.540.
- 56.543 2 S.H.
Biochemistry Laboratory II
 A continuation of 56.542. Prerequisite: Enrollment in 56.542.
- 56.545 3 S.H.
Physical Chemistry III
 Basic concepts of quantum mechanics including molecular orbitals, perturbation and variation theory; rotational and vibrational motion; spectroscopy; statistical thermodynamics and kinetics. Prerequisite: 56.401.
- 56.550 3 S.H.
Thermodynamics I
 A thermodynamic study of chemical change with special reference to solutions. Prerequisite: 56.401.
- 56.551 3 S.H.
Thermodynamics II
 A continuation of 56.550.
- 56.102 3 S.H.
Chemistry of Biological Materials
 This course offers a clear understanding of the physiological activities such as growth, digestion and excretion. A major portion of the course is devoted to the chemistry of the body fluids and nutrients in food. (Cannot be taken for credit by Chemistry majors). No prerequisite.

D. Special Provisions of the Program

1. The freshman and sophomore programs for the Liberal Arts and Sciences and the Secondary Chemistry Major are the same. This will enable the student to elect a Liberal Arts or a Secondary Chemistry program at the beginning of the junior year.

2. The freshman year was designed so that the student would have a good basis for continuing in the sciences or should he so desire, transfer to another curriculum without penalties. The program has further given consideration to the Junior College transfer student. The program will allow this student to continue his goal without any penalties.

3. The Secondary program provides enough restricted electives to enable the student to meet requirements for both New Jersey State Certification and entrance to Graduate Schools. He is also presented with the option selecting a wide range of courses in science, not being restricted to chemistry. The Liberal Arts program allows the student the latitude of selection of allied courses, i.e., Mathematics, while still permitting the use of free electives for personal choice.

E. Rationale

Glassboro State College's current program for the preparation of secondary school teachers of Physical Science, mandates only eight (8) semester hours of chemistry instruction. This is far below the accepted minimum for the preparation of an acceptable high school chemistry teacher. Consequently, the Science Department has not been able to recommend, except in very unusual cases, that our teachers do their student teaching in the field of chemistry. Very rarely have our graduates been offered a position as a chemistry teacher in the

high schools. Only after considerable make-up courses and a few years of experience, have the students been able to secure a teaching position in the field of chemistry. Nearly all high school chemistry positions are filled either with Liberal Arts School graduates (Chemistry majors) or individuals with adequate experience, who have proven themselves with advanced work in chemistry at other institutions.

F. Consultations:

Chemistry personnel at various state and local colleges have been consulted regarding programs leading to a B.S. in chemistry and chemistry education. Dr. William Mosher and Dr. Seymour Yolles from the University of Delaware made worthwhile suggestions for presentation of a chemistry major program. Dr. Peter Jeffs and Dr. Strobel from Duke University made contributions to the program. Our fellow institution, Montclair State, has a similar program and Mr. Albert Zabady was consulted. As Glassboro State College would like to present an accredited American Chemical Society Chemistry Program, the American Chemical Society was contacted and this program meets the requirements set forth by the Society.

The members of the chemistry section, Science Department, have had the opportunity to attend seminars, summer institutes, and course work at other institutions and have used these opportunities to discuss ideas on curriculum and facilities with individuals from all over the United States, i.e., Prof. Craver has discussed the program with individuals at University of Oklahoma, University of Delaware, Duke University, Emory University, University of Michigan, and both Prof. Craver and Dr. Jenkins attended a seminar at Northwestern Louisiana State College, which has recently instituted a program of the type being presented.

Various members of the section including the Department Chairman have visited new and proposed chemistry facilities at various schools in the area. (Shippensburg State College, Dickinson College, University of Delaware, Upsala, and most recently Duke University.)

Since it is mandatory that the student in the modern chemistry curriculum have the necessary tools for fully understanding and digesting the chemistry program, we feel the inclusion of the mathematics courses to Calculus III should be a vital and necessary part of the curriculum. Dr. Warren Roome, was consulted and assured us that the necessary mathematics course would be available for our majors.

The following is taken from a report presented to the faculty members of Glassboro State College on March 7, 1969, by Dr. Stanton B. Langworthy.

R. W. Darland, Provost
University of Minnesota
Consultant - Science

1. Faculty is well prepared; however, loads should be reduced and research should be a part of the teaching load.
2. There is a need for basic courses in the curriculum to enable students to teach or get into graduate school.
3. Library resources are far from adequate. There is a decided weakness in journals and basic books.
4. There is a need for space. The present building should house physics, mathematics, geology and astronomy. There should be a new building for life sciences and chemistry. A greenhouse should be built.
5. A division of Science and Mathematics should be established with department of biology, chemistry, physics, earth science and mathematics.

6. Students should have a B.A. in biology before being admitted into the M. A. program in Outdoor Education.

Acceptance of the proposed program will do much to correct some of the deficiencies as pointed out by Dr. Darland. Item #2 deals with the present curriculum.

The chemistry section is slowly, (due to budget) acquiring basic texts and journals as well as research materials. The other recommendations will certainly be implemented as the proposed program materializes. Glassboro cannot attract chemistry students to its campus unless we can present an accredited program in chemistry and chemistry education. It is also imperative that we have a program that will entice the junior college student to come to Glassboro. Under present conditions, a large number of the transferring junior college students have a better preparation in basic chemistry courses. Glassboro's current curriculum does not provide for transfer students in advanced chemistry courses. Inception of the new curriculum will attract pre-professional and pre-engineering students.

The following excerpts are taken from "The Evaluation Report to Glassboro" filed by Middle States Commission, Spring 1969. The individual concerned directly with the Chemistry and Science section was Dr. Edward J. King, Professor of Chemistry, Chairman of Department, Barnard College of Columbia University, New York.

"Since the authority to offer majors in liberal arts subjects did not come into being until the passage of the Higher Education Act of 1966, and since the number of students in them is only a small proportion of the student population, our analysis must necessarily be a tentative one.

Clearly the development of liberal arts programs will be central to the evolution of Glassboro to the status of a true multi-purpose institution, and equally clearly this involves a "liberal arts" approach to education and not simply efforts to "liberalize" present professional courses and programs. From the self-evaluation studies it is clear that a good deal of earnest thought has been given to defining the philosophies and objectives of a liberal arts program, and it appeared to us that there is a reasonably widespread acceptance of a commitment to these programs. We feel that it will be important for these "commitments" to be reaffirmed and pressed vigorously when the new president and other new administrative officers take up their duties. Strong support will be needed from both administration and faculty if the liberal arts programs are to develop with a focus and an identity that will ensure healthy growth and vigorous maturity. Especially, a genuine commitment on the part of the faculty will be essential -- belief in the goals and agreement with the methods needed to achieve these objectives. For example, in recruiting new faculty for such programs emphasis will need to be directed more toward the teacher-scholar to be found in colleges and in the graduate schools, and rather less toward the person whose experiences and qualifications have been gained largely in public school teaching.

Still further steps, it seems to us, will be important in establishing the conditions necessary to develop a vigorous program in the liberal arts areas and to attract and retain the necessary quality of faculty. One is the strengthening of the library, which at present lacks strength in holdings for upper level liberal arts courses, or scholarly activity by the faculty. Space also appears to

be an urgent problem, especially in the basic sciences. There does not seem to be adequate provision for intensive laboratory work in connection with science courses or for independent laboratory work by advanced students. It seems to us that the prospects of attracting desirable faculty in the basic sciences will be uncertain unless there is adequate space for faculty and student research. For the immediate future this problem is perhaps more pressing than the equipment problem. Finally, as is so often the case, the provision of more secretarial and technical assistance for faculty would free faculty time and energy for scholarly pursuits, including teaching preparation.

A vigorous liberal arts program can also be fostered significantly by active efforts to acquaint prospective students with this new and probably unfamiliar aspect of Glassboro State College and by actively encouraging applications from those interested in a college liberal arts program. Faculty members as well as admissions officers might well find it a valuable investment in the liberal arts program to visit secondary schools in the region, talking with students as well as with counselors, and presenting this aspect of the college to prospective applicants.

The liberal arts program quite properly is developing slowly as the faculty explores and debates the implications of this significant shift in the nature of the institution. It seems to us that it will now be important for the faculty to develop and refine its long-range plans, both for the introduction of new majors and for the strengthening and broadening of existing majors. At this stage we believe that plans should be developed on the basis of their own intrinsic merits and not inhibited by anticipation of possible restrictions from the outside."

GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY

Name of Faculty Member: Craver, Rhys H.
Academic Rank: Assistant Professor
Department: Science
Date of Appointment: 9/1/63

Academic and Professional Training --

<u>Institution</u>	<u>Location</u>	<u>Date</u>	<u>Degree</u>
Millersville State College,	Millersville, Pa	1951-1955	B.S.
U. of Delaware	Delaware	1957-1962	M.A.

Professional Experience

<u>Institution</u>	<u>Location</u>	<u>Nature of Position</u>	<u>Date</u>
Pequea Valley H.S.	Pa.	Chemistry & Phys.Sci.	1955-56
Millersville Demonstration School	Millersville, Pa	" "	1956-58
Bloomfield S.H.S.	Bloomfield, N.J.	" "	1958-63

U.S. Army 1947-1951

Statement Supporting Faculty Competence in Specific Program Area

Mr. Craver is a doctorate candidate at the University of Delaware, his major field is analytical, organic, and physical chemistry.

GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY

Name of Faculty Member: Jenkins, Alfred (Dr.)
Academic Rank: Professor
Department: Science
Date of Appointment: 9/1/60

Date of Birth -- July 27, 1917

Academic and Professional Training --

<u>Name of Institution</u>	<u>Location</u>	<u>Date of Leaving</u>	<u>Degree</u>
Tufts University	Medford, Massachusetts	1942	B.S., Chemistry
Boston University	Boston, Massachusetts	1947	M.A., Chemistry
Oklahoma State University	Stillwater, Oklahoma	1952	Ph.D., Chemistry

Undergraduate credits in field of specialization - 75

Graduate credits in field of specialization - 129

Professional Experience

<u>Institution</u>	<u>Place</u>	<u>Nature of Position Subjects or Grades</u>	<u>Dates</u>
Oklahoma State University	Stillwater, Okla.	Teaching Fellow	1947-51
DuPont Process Laboratory	Gibbstown, N.J.	Chemist	1952-60

Dr. Jenkins received his B.S. Degree from Tufts University, his M.A. from Boston University, and his Ph.D. in Chemistry from Oklahoma State University. He taught for four years at Oklahoma State University and has for eight years been a practicing chemist with the DuPont Company at a salary of \$10,000. He holds several patents on chemistry processes and is a member of the American Chemical Society. He has a fine personality for teaching and, we believe, will be very successful in giving our science majors a practical understanding of science applications. He will probably also serve as tennis coach. He is one of the leading players in southern New Jersey.

Statement Supporting Faculty Competence in Specific Program Area

Dr. Jenkins major field is organic chemistry.

GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY

Name of Faculty Member: Sjoblom, Jorma J. (Dr.)
Academic Rank: Associate Professor
Department: Science
Date of Appointment: 9/1/68

Date of Birth -- April 5, 1919

Academic and Professional Training --

<u>Name of Institution</u>	<u>Location</u>	<u>Date of Leaving</u>	<u>Degree</u>
Western Reserve University	Cleveland, Ohio	1940	A.B.
University of Minnesota	Minneapolis, Minn.	1955	Ph.D.

Undergraduate credits in field of specialization -- 34 (chemistry)

Graduate credits in field of specialization -- 84 (chemistry)

Professional Experience --

<u>Institution</u>	<u>Location</u>	<u>Nature of Position Subject or Grades</u>	<u>Dates</u>
University of Minnesota	Minneapolis	Teaching Assistant	1940-41 1943-46
Lawrence College	Appleton, Wis.	Convalescence from leg operation Teacher-Inorganic, Analytical, Physical Chemistry	1942-43 1946-56
* Air Products, Inc. TRG Division of Control Data Corporation	Allentown, Pa. Melville, New York	Research in Cryogenics	1956-57
* New York University College of Engineering	University Hts.	Research in Solid State Physics	1959-67
Ulster County Community College	Stone Ridge, New York	Teaching General, Inorganic, and Organic Chemistry	1957-59 1967-68

Statement Supporting Faculty Competence in Specific Program Area

Dr. Sjoblom's major field is in physical chemistry.

GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY

Name of Faculty Member: Steklasa, Edward
Academic Rank: Instructor
Department: Science
Date of Appointment: 9/1/68

Date of Birth -- January 30, 1944

Academic and Professional Training --

<u>Name of Institution</u>	<u>Location</u>	<u>Date of Leaving</u>	<u>Degree</u>
Ely Junior College	Ely, Minn.	1964	A.S.
University of Minnesota	Minneapolis, Minn.	1966	B.S.
		1967	M.S.

Undergraduate credits in field of specialization -- 83

Graduate credits in field of specialization -- 23 .

Professional Experience --

<u>Institution</u>	<u>Location</u>	<u>Nature of Position</u> <u>Subjects or Grades</u>	<u>Dates</u>
University of Minnesota	Minneapolis, Minn.	Teaching Assistant	1966-67
Rohm and Haas	Philadelphia, Pa.	Development Chemist	1967-68

RECOMMENDATION

Mr. Edward J. Steklasa is recommended for appointment to the rank of Instructor in the Science Department. His assignment will be in the area of the physical sciences. Mr. Steklasa has a B.S. and an M.S. in science from the University of Minnesota. His experience includes: one year in industry; teaching at the college level during his graduate work.

Statement Supporting Faculty Competence in Specific Program Area

Mr. Steklasa's major field is in chemistry and engineering.