

UNIVERSITY OF DELAWARE
NEWARK, DELAWARE
19711

UNIVERSITY FACULTY SENATE
303 HULLIMEN HALL
PHONE: 302-738-2829

January 27, 1975

MEMORANDUM

TO: All Faculty Members

FROM: E. Paul Catts, Vice President
University Faculty Senate *E. Paul Catts*

SUBJECT: Regular Senate Meeting, February 3, 1975

In accordance with Section IV, paragraph 6 of the Constitution, the regular meeting of the University Faculty Senate will be held on Monday, February 3, 1975, at 4 PM in Room 110 Memorial Hall.

AGENDA

- I. Adoption of the Agenda.
- II. Approval of Minutes of January 6 and 13, 1975.
- III. Announcements
- IV. Old Business (None)
- V. New Business
 - A. Report from the Provost concerning appointments for the Council on Program Evaluation (COPE). (Attachment 1)
 - B. Recommendation from the Coordinating Committee on Education concerning an Early Admissions Honors Program. (Attachment 2)

"RESOLVED, the Faculty Senate approves the Early Admissions Honors Program for a period of three years and that the Program be reviewed by the Coordinating Committee on Education at the end of two years with additional recommendations being made to the Faculty Senate at that time."
 - C. Recommendation from the Coordinating Committee on Education concerning the establishment of a Bachelor of Science Program in Nuclear Medicine Technology. (Attachment 3)

"RESOLVED, the Faculty Senate approves the establishment of a Bachelor of Science Degree Program in Nuclear Medicine Technology."

- D. Revised recommendation from the Graduate Studies Committee concerning the Policy on 600-numbered courses (Attachment 4).
- E. Such items as may come before the Senate. (No motion introduced at this time may be acted upon until the next meeting of the Senate.)

Attachments are in the hands of your Senators. Distribution also includes one copy for each ten faculty members of each department.

EPC/dpe

Attachments: 1 through 4

APPOINTMENTS TO COUNCIL ON PROGRAM EVALUATION

In accordance with Recommendation 14 of Senate Bill 105, the appointees listed below are presented for membership on the Council on Program Evaluation by Provost L. L. Campbell.

Edward H. Kerner, Professor, Department of Physics
Lucia M. Palmer, Associate Professor, Department of Philosophy
Francis X. Tannian, Professor, Division of Urban Affairs
Deborah Lasher, Graduate Student, Department of Political Science
Victor N. Kasun, Undergraduate Student, Department of History.

These appointments will bring the Council to its full membership. Those members continuing to serve on the Council are:

Dale F. Bray, Professor and Chairperson, Entomology and Applied Ecology
Eugene Chesson, Professor and Chairperson, Department of Civil Engineering
Anna L. Dellaven, Professor, College of Nursing
David E. Ingersoll, Associate Professor and Chairperson, Department of Political Science
Edward E. Schweizer, Professor of Chemistry
Edward L. Trembley, Associate Professor, Department of Professional Services; Director of the Center for Counseling and Student Development.

1/27/75

EARLY ADMISSION HONORS PROGRAMGENERAL CONCEPT:

The Early Admission Honors Program provides highly motivated and academically superior students an opportunity to complete concurrently the senior year of high school and the freshman year of college. Selected students are admitted to the University of Delaware upon completion of the junior year of high school. A unique feature of this program is the Transitional Year Program located in the small-college setting of Wesley College and designed to facilitate articulation between preparatory schooling and University studies. Upon completion of the Transitional Year, students enroll on the University campus as sophomores and complete the baccalaureate degree in two or three years, depending upon the individual student's ability to accelerate progress through independent study and credit by examination.

PURPOSES AND OBJECTIVES:

The purposes and objectives of this program are as follows:

1. To enable highly motivated, mature, and scholastically superior students to accelerate completion of the baccalaureate degree by combining the senior year of high school with the freshman year of college.
2. To provide for such students an intellectually stimulating program of studies, recognizing that there is much unnecessary replication between strong, accelerated high school programs and the traditional programs of the freshman year.
3. To facilitate the transition from secondary schools to college for students who begin collegiate studies a year earlier than in the traditional pattern of secondary school preparation.
4. To avoid the problems frequently associated with early admission by providing for these students a specially designed program of studies in a small-college setting prior to enrolling on a large, multi-purpose university campus.
5. To attract to the University of Delaware undergraduate students of high quality and academic excellence who might otherwise not seek admission here.
6. To provide a means for utilizing the educational facilities of Wesley College in a way that is beneficial to both institutions, yet does not conflict with the vested interest of either institution.

7. To develop a model program which is unique in higher education and which addresses some of the pervasive issues in higher education, namely secondary school/college articulation, shortening of the year span required to complete the baccalaureate degree, attention to the needs of the scholastically superior student, and means for cooperation and mutual support between institutions in the public and private sectors.

ADVANTAGES TO WESLEY COLLEGE:

The following are seen as the specific advantages this program would have for Wesley College:

1. Provide income from reimbursement for use of faculty, classroom and laboratory facilities, and residence hall accommodations.
2. Provide a means for utilizing existing personnel and facilities.
3. Enhancement of Wesley's own instructional programs. Instructional strategies and approaches used in the Transitional Year Program could serve as a model for curriculum development and strengthening of programs of study offered by Wesley.

ADVANTAGES TO THE UNIVERSITY:

1. Attraction of high quality students to the University who otherwise might not enroll here.
2. Development of a program of studies aimed specifically at scholastically able students which might serve as a model for other programs of study.
3. Recognition for development of a model program.

ADMISSION AND ENROLLMENT:

The Early Admission Honors Program will enroll 200 students each year selected on the basis of academic qualifications without regard to state of residence (i.e., there will be no quotas for Delaware residents or out-of-state students). Students will apply for admission in the Fall of their junior year of secondary school. They will be required to submit a record of secondary school studies completed to date, as well as recommendations of the secondary school. They will be required to submit Scholastic Aptitude Test scores (applicant should sit for the Scholastic Aptitude Tests in the November or December administration during their junior year of high school). Selection will be based on the total secondary school record, but it will be expected that

students will have pursued a rigorous program of secondary school studies in grades 9 through 11, that they will have achieved at a superior level in college preparatory courses, that they will usually stand in the top 10 percent of the secondary school class, and that they will achieve SAT scores totaling at least 1150 (Note: These are junior year test scores which normally would increase by 50 to 100 points in the senior year). Consideration will also be given to evidence of high motivation, maturity, and overall readiness to enter an intellectually stimulating and challenging program.

Those selected will be admitted to the University of Delaware as freshmen in the College of Arts and Science upon completion of the junior year of high school. All students will be admitted to the College of Arts and Science, although they may transfer to another college within the University at the beginning of the sophomore year.

THE TRANSITIONAL YEAR PROGRAM:

All students will follow a common program of studies in the freshman year at Wesley College. For all students this program will include English, the humanities, social sciences, laboratory science, and mathematics. Structure of the curriculum will be modeled after the Summer Humanities Program, emphasizing an interdisciplinary approach with team teaching and seminar-structured classes. There will be an emphasis on independent study. Students will be required to sit for advance placement examinations, and will be encouraged to earn credit through independent study projects and competency examinations. Through the basic seminars, students will earn course credit equivalent to that in the normal freshman year and applicable to freshman-level degree requirements.

Instruction will be highly individualized, since students will enter the program with varying backgrounds.

Although all students will follow a common program, the emphasis on individual study projects will permit students to pursue special areas of interest within the common structure of the program.

HIGH SCHOOL DIPLOMA:

All students upon satisfactory completion of the Transitional Year will be awarded a high school diploma. There are two alternatives for the awarding of such diplomas. Preferably, the University would award students a high school diploma (Note: This would require that the University obtain approval from the Department of Public Instruction to issue a Delaware high school diploma). As an alternative, a record of the student's work in

the Transitional Year Program could be submitted to the secondary school previously attended, with a prior agreement of the secondary school that it would grant the student a high school diploma upon satisfactory completion of this year's work. The first alternative is preferred because it might be difficult, because of the nature of the Transitional Year Program, for some secondary schools which have rigid diploma requirements to award a diploma on the basis of the Transitional Year Program.

RESIDENTIAL REQUIREMENT:

All students enrolled in the program will be required to live on-campus at Wesley College during the Transitional Year. No students will be permitted to live off-campus or to commute. A special residence life program will be developed cooperatively between the University's Office of Residence Life and Wesley College to provide a residence life program which is specifically designed to meet the needs of students in this program, particularly recognizing the age of this group. Students will be housed at Wesley either in separate residence halls or within designated areas of residence halls shared by these students and Wesley students.

ACADEMIC STATUS:

Students will be admitted to the University and will be considered University students for academic purposes. The Transitional Year Programs of study will be identified as University courses, students will earn University credit, and registration, grading, and permanent academic records will be maintained by the University of Delaware.

FACULTY:

Instruction will be provided by faculty members from Wesley College, as well as faculty from the University of Delaware. As indicated, the Transitional Year Program will follow an interdisciplinary team approach. Chairman of each interdisciplinary team will be a member of the faculty of the University of Delaware. Other University faculty will be used for special lectures, supervision of independent study projects, and in those areas or disciplines in which Wesley College does not have qualified faculty. Teaching and lecturing related to the Transitional Year Program will be included as part of the regular faculty teaching load for Wesley College and University faculty.

AFTER THE TRANSITIONAL YEAR:

Upon completion of the Transitional Year, students will enroll on the Newark campus and follow the regularly prescribed program of studies leading to the baccalaureate degree sought.

It is anticipated that, because of the early emphasis on independent study and credit by examination, many of these students will continue to accelerate progress toward the baccalaureate degree through utilization of special problems courses and departmental competency examinations. It also is anticipated that, again because of the interdisciplinary approach in the Transitional Year, many of these students will seek interdisciplinary programs in their remaining three years - such as ILS, and that many may be selected as Dean's Scholars.

ACTIVITIES AND FACILITIES USE:

As University students, students enrolled in the Transitional Year Program will be afforded use of University facilities and permitted to participate in University social, cultural, and recreational activities as appropriate. For special events on the University campus, bus transportation will be provided to enable students to participate in such activities. Students also will be permitted to utilize Wesley facilities and to participate in activities sponsored by Wesley College.

FEEES AND FINANCIAL STRUCTURE:

All students enrolled in the Transitional Year Program will pay a single fee to the University, and this fee will be the same regardless of state of residence. This fee will cover tuition, room, board, and activities fees. Regular University fees, differentiated by state of residence, will apply when the student enters the sophomore year on the University campus. All fees will be paid to the University, and the University will reimburse Wesley College for services and facilities provided.

As an example, a Transitional Year fee of \$3,500 is suggested. Of this, \$1,200 is paid to Wesley College for room and board costs; \$1,300 is paid to Wesley College for instructional services; and \$1,000 is retained by the University for instructional services and administrative costs. Assuming that the program would enroll 200 students, income from fees would total \$700,000. Of this amount, \$500,000 would be paid to Wesley College, \$240,000 for room and board and \$260,000 for instructional services and facilities use. The University would retain \$200,000 to cover its costs for instructional services and administration.

Of course, the suggested flat fee of \$3,500 is subject to cost analysis. It does not appear to be an unreasonable figure, since it is in line with private college costs, University out-of-state costs, and the costs at private boarding preparatory schools.

RECRUITMENT:

The program will need to have broad exposure. Special materials describing the program will have to be designed. These might be distributed to secondary schools throughout the United States, but it probably is realistic to concentrate recruitment efforts in the Eastern part of the United States.

ADMINISTRATION:

The University will be responsible for administration of the program. The instructional program will be under the direction of the College of Arts and Science. The Admissions Office will be responsible for recruitment activities and selection of students for admission to the Program. The Records Office will handle the scheduling, registration, grade processing, and permanent academic records. The Financial Aid Office will be responsible for administering financial aid to students in the program, and the Bursar's Office will collect fees and maintain student accounts. Supervision of the student life and student activities program will be under the Dean of Students Office. Supervision of residence life activities will be the responsibility of the Residence Life Office.

STAFFING:

Staff and faculty will be drawn from both institutions. Because of the nature of the program and the emphasis on individualization of instruction, a faculty/student ratio of one full-time equivalent faculty member for each 10 students is recommended. Thus, the program will require an instructional staff of 20 full-time equivalent instructors. Of these, eight full-time equivalent faculty will be drawn from the University of Delaware, including those who serve as team leaders of the interdisciplinary instructional teams. Twelve faculty members will be drawn from Wesley College.

Other full-time staff members will include a Program Coordinator who will be responsible to the Dean of the College of Arts and Science (with a title of Assistant Dean), an Assistant Dean of Students responsible for administration of the student life program, and a Residence Life Coordinator. Wesley College will provide staffing in the student life area on a part-time basis and as required to support the program. Wesley College also will provide staffing in the residence life area, to include residence hall advisers (proctors) from its own student body (it is assumed that compensation for residence life staff is included in the room and board fee paid to Wesley College).

The following is a suggested general budget, assuming the fee structure and income distribution suggested above:

University of Delaware

Program Coordinator (Assistant Dean).....	\$ 18,000
Assistant Dean of Students.....	12,000
Residence Life Coordinator.....	12,000
Eight Instructors (Average \$15,000 each).....	120,000
Other Administrative and Instructional Costs....	38,000
Sub-Total.....	<u>\$200,000</u>

Wesley College

Twelve Instructors (Average \$15,000 each).....	\$180,000
Other Instructional and Administrative Costs....	80,000
Room and Board Costs.....	240,000
Sub-Total.....	<u>\$500,000</u>

TOTAL.....	\$700,000
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FINANCIAL AID:

As University students, students enrolled in this program will be eligible for financial aid programs administered by the University and awarded on the basis of need. Students also will be eligible for Guaranteed Student Loans and Basic Opportunity Grants, federal programs not administered by the University but available on the basis of need.

As a further incentive to attract students to the program, it is recommended that private contributions be sought totaling \$50,000 to award 50 special scholarships of \$1,000 per year each to students in the program and awarded on the basis of scholastic merit and need. These special scholarships are non-renewable and are available only during the Transitional Year Program.

Upon beginning the sophomore year on the University campus, students in the program will be eligible for regular University financial aid, including that awarded on the basis of need as well as scholarships awarded on the basis of academic merit.

RWM:bs

7/15/74

BACKGROUND INFORMATION

A Proposal For A

B. S. Degree Program

in

Nuclear Medicine Technology

First Proposal Prepared April, 1974
(late W. Robert Bailey, Ph.D.)

Third Revision, October, 1974
David G. Onn, Ph.D.
Helen L. Tang, B.S., M.T. (ASCP)

In a March 5, 1970, memorandum to Dr. John Shirley, who was then Provost of the University, President Trabant expressed the hope that the Provost would "proceed with the paramedical programs in the following ways:

1. The present four-year Medical Technology program to be continued and augmented.
2. A four-year program in Physical Therapy be explored and implemented if exploration should prove feasible.
3. The feasibility of a four-year program in Nuclear Medical Technology should be explored."

Following this recommendation, the attached proposal has been developed.

University of Delaware
Division of Health Sciences

UNIVERSITY OF DELAWARE
DIVISION OF HEALTH SCIENCES

B.S. DEGREE PROGRAM IN NUCLEAR MEDICINE TECHNOLOGY

A PROPOSAL FOR A UNIVERSITY BASED PROGRAM

I. Introduction

Nuclear medicine¹ is the scientific and clinical discipline concerned with the diagnostic application of radioisotopes in tracer amounts and the therapeutic use of radioisotopes. When radioisotopes are administered in tracer form to patients, indications of the extent of the performance of certain body functions are obtained, the state of hematologic or metabolic processes can be evaluated, levels of particular hormones can be assessed, or the location of certain disease processes in different organs can be obtained.

Nuclear medicine is a highly informative and highly sophisticated diagnostic tool to the medical profession. The increased availability of radioisotopes from nuclear reactors, refinement of radiation detection equipment, increased production and availability of radioactively "tagged" compounds, and computer application of data analysis have been major factors in the technical advances occurring in both the research and clinical phases of nuclear medicine.

In the last two decades, diagnostic nuclear medicine has advanced from infancy to a high level of development; indications are that it will continue to grow and develop at least at its present 15 to 20 per cent rate per year.

One aspect of the field which has not kept pace with these advances is in meeting the need for college-trained personnel to whom nuclear medicine offers the challenge and opportunities of diverse roles in supervision, administration, education, research or clinical activities. The active participant in nuclear medicine can be influential in guiding the growth of nuclear medical technology itself.

Various other medical specialties have come to rely heavily upon nuclear medicine and its trained personnel. As a result, the role and significance of the nuclear medical technologist is becoming greatly increased as an allied health care team member. The pre-professional and professional education of a nuclear medical technologist emphasizes a well-rounded curriculum from which the technologist can draw for his routine tasks and adapt to new developments in the field.

¹Based upon the Catalog description of the Nuclear Medical Technology Program, University of Iowa.

At present, the greatest need for nuclear medical technologists is in the larger hospitals and medical or research centers. Employment possibilities will increase with concomitant advances in the field of nuclear medicine.

II. Manpower Needs in Nuclear Medicine Technology

The employment outlook in nuclear medicine technology is very bright. There will be a need to prepare approximately 1300 individuals each year to fill available positions. As reported by the American Registry of Radiologic Technologists, the number of individuals designated as nuclear medicine technologists will increase approximately two-fold between 1972 and 1980.

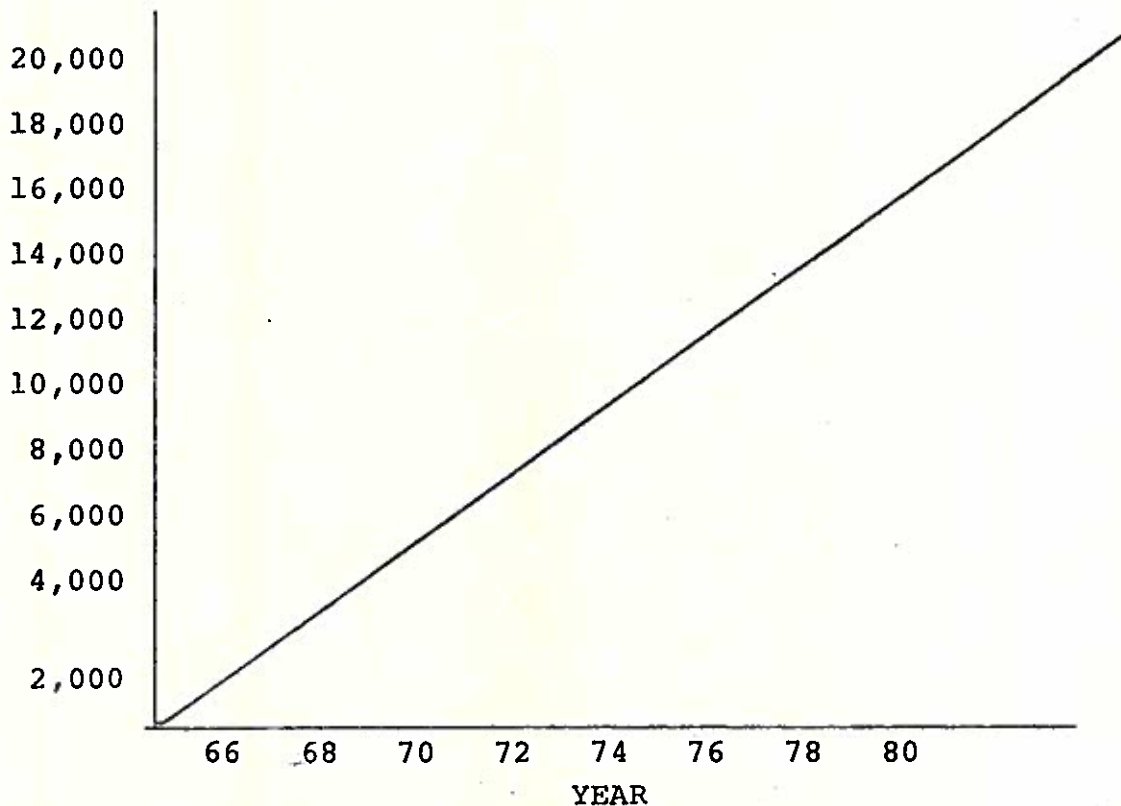
Based on regional manpower needs, the following figures were presented at the annual meeting of the Society of Nuclear Medicine in June, 1973, according to the report by the Technical Education Research Center:

NUCLEAR MEDICINE TECHNOLOGISTS MANPOWER NEEDS

<u>REGION</u>	<u>DEMANDS</u>	<u>SUPPLY</u>	<u>NEED</u>
I	91	27	64
II	260	86	174
III	104	75	29
IV	130	77	53
V	260	136	124
VI	104	36	68
VII	117	70	47
VIII	26	28	0
IX	169	58	111
X	39	4	35

NOTE: Region II (H.E.W.) consists of Delaware, New Jersey, New York, and Pennsylvania. The greatest demand for Nuclear Medicine Technologists is to be found in this region.

The best estimate of demand for Nuclear Medicine Technologists, as provided by the Technical Education Research Center, is shown by the accompanying graph.



An advisory committee on Nuclear Medicine Technology was appointed in 1973 and charged with the responsibility of exploring the feasibility of and need for a program in this area. The Journal of the American Medical Association shows that the number of AMA approved programs, including both technician and technologist types, as of November, 1973 in states adjacent to Delaware, are as follows:

Maryland - 2	Pennsylvania - 3	New Jersey - 1
New York - 0	District of Columbia - 0	Virginia - 1

It must be borne in mind that at the time of writing, there are only three college or university-based programs in the country which culminate in a B.S. degree, even though there is a total of 59 approved programs that prepare students for taking the Registry examinations given by either the American Registry of Radiologic Technologists (ARRT) or the American Society for Clinical Pathologists (ASCP). The ARRT provides registration in Nuclear Medicine Technology and the latter certification in Nuclear Medical Technology. Forty-three of these are 12-month certificate programs, which are either post-baccalaureate programs or programs for those who are already certified in medical technology, radiologic technology or nursing.

III. Proposal for Program

The program proposed would prepare B.S. graduates to work in the scientific and clinical aspects of the diagnostic, therapeutic and investigative use of radionuclides. In a professional position the nuclear medical technologist receives, positions, and attends to patients, and abstracts data from patient records; makes dose calculations for in vivo studies; and assists the physician in the operation of scanning devices for isotopes, including those that are computer-connected. He is greatly concerned with safety and has responsibility for disposal of radioactive waste, safe storage of radioactive material, and the inventory and control of radiopharmaceuticals. This variety of sophisticated techniques, coupled with direct patient interaction requires a curriculum that is strongly based on the sciences and mathematics, while permitting adequate study in other areas, particularly the humanities and social sciences. It is intended that graduates of this program be capable of advancing, either directly, or with further post-graduate training, to supervisory, administrative and research positions in the field, in addition to educative and clinical positions.

The program in Nuclear Medicine Technology should be of such academic calibre that students can proceed to graduate programs in nuclear radiation physics, medical physics, radiochemistry, radiobiology, radiation public health (administration and epidemiology), radiation dosimetry, radiological physics, special problems in radiation health, radioecology, radiation health practicum, and statistical methods. In addition, one may pursue a career in a specialized area of nuclear medicine such as radiopharmacy, biological and clinical research, and health care administration.

A tentative curriculum for a baccalaureate degree program has been developed and is attached. It is recommended that the program be implemented in September, 1975 at the freshman level. If a sufficient number of students are ready for advanced standing and have fulfilled established criteria, they may be considered for admission at the second and third year levels. This would permit development of the clinical rotations commencing in January, 1977, with Winter Term clinical orientations commencing in January, 1976. Because of the need for trained personnel in this area and the availability of clinical space, it would be advantageous to expedite entry into the program for qualified students.

Two possible implementation schedules are presented on page 14 of this proposal.

The components of the program during the first two years will be given, for the most part, by existing university faculty. New faculty members will be added to cover the professional subjects to be taught predominantly in the third year and first semester of the fourth year. The clinical components in the fourth year will be given by qualified hospital personnel.

IV. Program CostsA. Personnel

The program requires a medical director, who must be a physician, qualified in the clinical use of radionuclides. To this end, it is recommended that a qualified member of the medical staff of a local clinical center be appointed to this position, and be given an adjunct faculty appointment.

In addition, the university shall appoint a program director to organize the academic program and to coordinate such with a clinical education program in the clinical affiliates.

While, as outlined above, the first two years of the program will be given by existing university faculty, new faculty members will be needed for the professional phases of the program. This will require two assistant professors, one of whom would share responsibilities in other health sciences programs. In addition, it is recommended that at each major clinical affiliate the position of clinical instructor be held by the professional nuclear medical technologist principally responsible for student contact during the clinical rotation.

Costs: (All salaries 12 months)

Medical Director - (no salary) - Adjunct or clinical appointment.

Program Director - \$22,000 - (M.S., Ph.D.) Certified NMT with minimum of M.S. degree with experience in the area of NMT. Duties: Administrative, coordination and instruction. Recommended initial appointment, January, 1975.

Faculty members -

- a) System Anatomist (or similar, depending on development of other allied health programs with whom duties will be shared; or may hold joint appointment with Biology)
\$16,000 (half to NMT program). Ph.D. Assistant Professor
- b) Radiation and isotopes specialist to teach professional subjects, e.g., radiochemistry, radiopharmacy, and radiobiology.
\$16,000 Ph.D. Assistant Professor
(Possibly, joint appointment with Biology, Chemistry or Physics)
- c) Radiation safety office - existing University Radiation Safety Office would be responsible for instruction and practice of radiation safety in this program. No cost to program.

- d) Clinical Instructors - the costs cannot be specified at this time since the affiliation agreements with medical centers will vary. Remuneration would probably be on a per hour basis.

B. Equipment

\$200,000 for start-up equipment. The amount proposed for start-up equipment in July 1974 was estimated to be \$150,000 (see detailed list of equipment). In October 1974, \$50,000 was added to cover appreciation, and the anticipated newly-developed instruments within the next three years.

The sophistication of equipment in this area is very high, while in recent years instrumentation cost inflation has generally exceeded the overall rate of inflation. Federal Grant and Foundation money is being sought for this area.

C. Operating Cost

\$12,000 (based on Consumables used in Medical Technology Program, with added costs of specialized needs, e.g., radionuclides, safety equipment).

D. Space

Small lecture or seminar room equipped for demonstrations (can be shared with other health science programs).

Large Laboratory - 20 feet x 50 feet, equipped for handling large equipment, and disposition of radionuclides; preferred to be situated in the proposed new Life Sciences building.

7.

DETAIL OF NONRECURRING EQUIPMENT OR SPECIAL ACQUISITION REQUIREMENTS

Provide a brief description of the equipment required and include only purchases; equipment rental costs should be provided in recurrent operating expenses. If special remodeling or construction is required to install equipment, describe on next page.

DEPARTMENT OR COLLEGE/DIVISION PRIORITY	DESCRIPTION OR NAME OF EQUIPMENT OR SPECIAL ACQUISITION	DOLLAR AMOUNT OF REQUEST
Division of Health Science Nuclear Medicine Technology	6 - Mini Scaler and Probe	\$ 30,000
	3 - Well and Counter	15,000
	2 - Liquid Scintillation System	30,000
	12 - Geiger Mueller Counters	10,000
	12 - Ionization Chamber with Scaler	24,000
	3 - Thermoluminescent Dosimeter System	9,000
	2 - Gamma Spectrometer with Multi-Channel Analyzer	24,000
	1 - Complete Set - Phantoms	5,000
	Misc. Radiation Safety Equipment	1,500
	Misc. Radio Immuno Assay Equipment	1,500

Total Amount Requested \$ 150,000

V. Sources of Funding

It should be recognized that in some instances (e.g., some Federal funding) funds are available only for an approved and operating program. Start-up funds must then be provided from university or other private sources.

The following sources are under active consideration:

1. Student tuition for the program
2. Delaware Institute for Medical Education and Research (DIMER).
In the 1975-76 budget request:
 - (a) \$100,000 for start-up equipment
 - (b) \$ 22,000 for new personnel
3. General University Funds
4. Private Foundations, particularly for initial equipment funding
5. V.A. Federal Grants (under the Veteran's Administration Medical School Assistance and Health Manpower Training Act of 1972, grant is available for existing health manpower training institutions which are affiliated with V.A. hospitals. Grant funds may be used for salaries of professional and supporting staff, associated benefits, purchase of supplies and equipment). Applications for support under this Act will be made once the program is approved by University of Delaware administration.

VI. Affiliations

Veterans Administration Center - 2 students

Wilmington Medical Center - Wilmington General - 6 students
Delaware Division

Future Possibilities - Program Director will seek other clinical facilities for internship such as:

Chester-Crozier Hospital, Chester, Pa.

Kent General, Dover, Delaware

Perry Point Veterans Hospital, Perry Point, Maryland

St. Francis Hospital, Wilmington, Delaware

Alfred I. DuPont Institute, Wilmington, Delaware

VII. Accreditation

The Joint Review Committee on Educational Programs in Nuclear Medicine Technology shall serve as the reviewing body and make recommendations to the Council on Medical Education of the AMA concerning approval status. Survey accreditation takes place after the affiliations have accepted students for clinical internship (probably September, 1976).

VIII.

PROPOSED CURRICULUM FOR A BACCALAUREATE PROGRAM
IN NUCLEAR MEDICINE TECHNOLOGY

a) This curriculum reflects the trend in allied health programs to introduce the professional subjects in the junior year.

b) Some courses listed in this curriculum are necessarily unnumbered, and are intended to indicate some general areas of coverage. It is anticipated that the Program Director, to be appointed in early 1975, will have considerable input on the final form of the curriculum, as will the medical director in the clinical rotation and professional instruction stages.

<u>YEAR I</u>			
<u>Fall</u>	<u>CR.</u>	<u>Spring</u>	<u>CR.</u>
General Chem., C103 ¹	4	General Chem., C104 ¹	4
Intro. to Calculus I, M221 ²	3	Intro. to Calculus II M222 ²	3
Crit. Reading & Writing E110 ³	3	Concepts in Biology, B201 ¹	4
Elective (humanities) ⁴	3	Elective (humanities) ⁴	3
Elective (soc. sci.) ⁵	3	Elective (soc. sci.) ⁵	3
	<u>16</u>		<u>17</u>

<u>YEAR II</u>			
<u>Fall</u>	<u>CR.</u>	<u>Spring</u>	<u>CR.</u>
Elem. Org. Chem., C213 ⁶	4	Elem. Biochem., C214	4
General Physics, PS201 ¹	4	General Physics, PS202 ¹	4
Intro. to Calculus III, M223	3	Elective: Biology B4-- Biostatistics ST4-- or HLS4-- ¹²	3
Elective: Biology B3--	4	Elective (soc. sci.) ⁵	3
Elective	3		<u>3</u>
	<u>18</u>		<u>18</u>

<u>YEAR III</u>			
Quant. Analysis, C220	3	Mamm. Physiology, B406	4
Human Anatomy, HLS3-- or B3--	4	Patho-Physiol., HLS---	3
Medical Physics, PS306	4	Computer training (CS or EE (8))	3
Public Health, HLS 330	3	*Radiochemistry-Radio- pharmacy, HLS---	3
Electives	3	*Radiation Safety HLS---	3
	<u>17</u>		<u>16</u>

YEAR III Winter Session

Clinical Orientation^{9, 11}
Instrumentation and Safety HLS---

YEAR IV

<u>Fall</u>	<u>CR.</u>	<u>Spring</u>	<u>CR.</u>
*Radiation Biol., HLS4--	3	Clinical Rotation ¹⁰	15
*Nuclear Instrumenta- tion, HLS---	3		
*Diagnostic Procedures In Vivo, HLS4--	3		
*Diagnostic Procedures In Vitro, HLS4--	3		
*Administrative Proce- dures, HLS4--	1		
*Research Projects, HLS466	2		
	<u>15</u>		<u>15</u>

*Professional Courses, but will be opened to Non-NMT students.

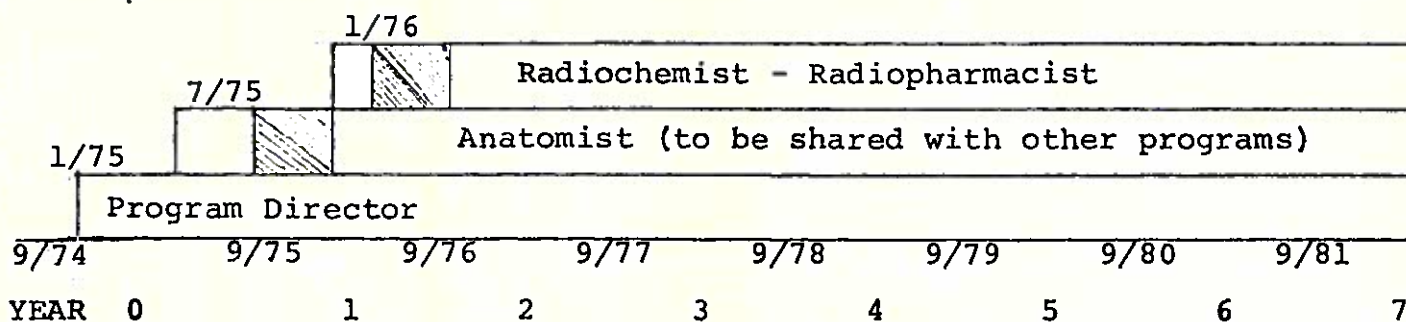
NOTES

1. Qualified students may take the Biomedical Chemistry-Physics course PS/C 108, 109 sequence in lieu of C103, 104 and PS201, 202.
2. A higher level of calculus may be taken if desired, e.g. M241.
3. Some students may be exempt from this course.
4. At least 6 credits of humanities (Group I, A & S) required.
5. At least 9 credits of social and behavioral sciences (Group II, A & S) required for program.
6. A higher level of organic chemistry may be taken if desired.
7. Appropriate course to be selected.
8. Appropriate course - EE202, Digital Logic or CS100.
9. Specialized areas such as Medical Ethics, Emergency Treatment, etc. will be discussed during this period and during the Clinical Rotation.
10. A detailed curriculum of the Clinical Rotation is under development. (See Appendix for outline proposal from VA and WMC). The rotation will last from January through May, and possibly through September.
11. The Clinical Orientation would be a non-structured course to be offered during the Winter Session and designed to provide students with a superficial exposure to nuclear medicine as an introduction to the profession.
12. Biostatistics - a new course to be developed appropriate to the needs of premedical, pre dental and other health sciences majors.

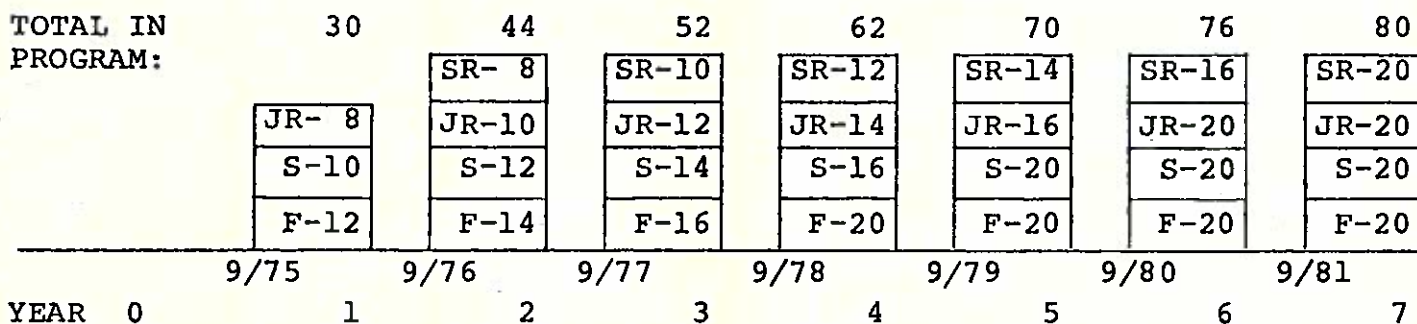
TIME TABLE FOR FACULTY HIRING AND STUDENT ENROLLMENT

Proposal A - Immediate implementation: First graduating class-1977

1. Faculty Hiring

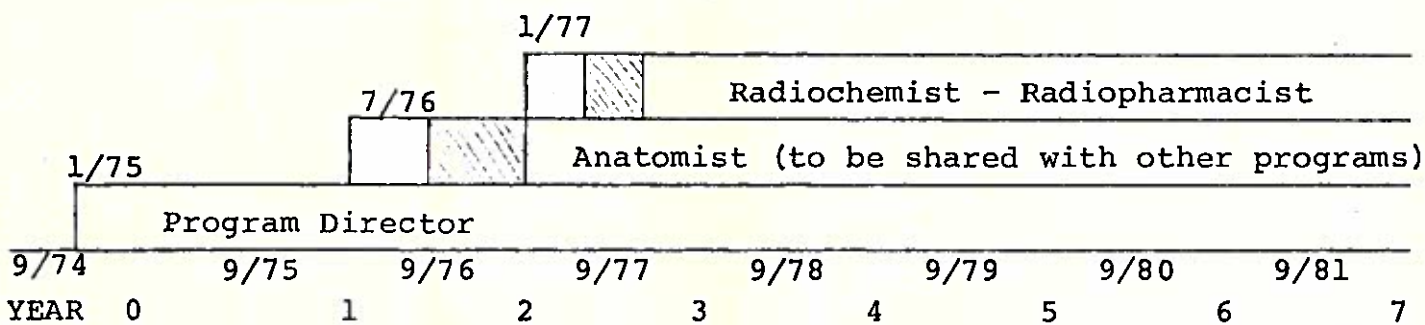


2. Student Enrollment (Related to faculty hiring schedule)

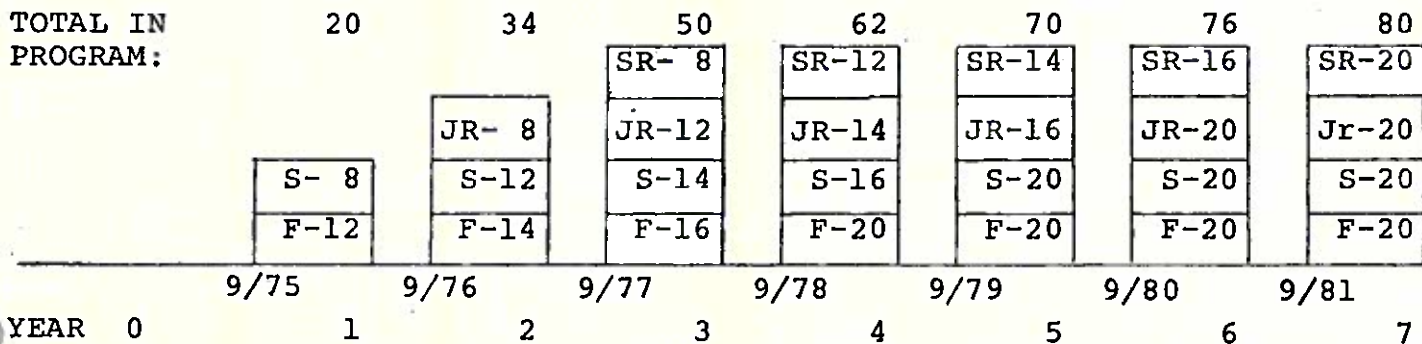



Proposal B - Delayed implementation: First graduating class - 1978

1. Faculty Hiring



2. Student Enrollment



 - Initial Teaching Schedule

VETERANS ADMINISTRATION CENTER
1601 Kirkwood Highway
Wilmington, Delaware 19805

October 1, 1974

460/11

L. Leon Campbell, Ph.D.
Provost
University of Delaware
Newark, Delaware 19711

Dear Dr. Campbell:

I am writing this letter to reaffirm this Center's willingness to enter into an educational affiliation with the University of Delaware in the field of Nuclear Medicine Technology. Under the proposed program, students would rotate through our Nuclear Medicine Laboratory for clinical experience. We are prepared to enter into a more formal "memorandum of understanding" which would give the general responsibilities of each of the participants at any time you might desire.

If any costs to us are generated by this program, which we feel are more than can be absorbed by the budget of our Nuclear Medicine Service, we will approach the University to make a small reimbursement per individual student rotating through our facility. It is not anticipated that this would amount to any significant total amount of money.

We are looking forward, with great anticipation, to this developing affiliation. We are certain that our experience in the Nuclear Medicine Technology Program will be as rewarding to both institutions as has been our relationships with you in other areas of mutual interest.

Sincerely yours,

WILLIAM G. JONES, M.D.
Chief of Staff

cc: Dr. David Onn
Dr. Edward Lurie
✓Mrs. Helen Tang

14.
VIDYA V. SAGAR, M. D.
CHIEF, NUCLEAR MEDICINE SERVICE
V. A. HOSPITAL
WILMINGTON, DELAWARE 19805
TELEPHONE 994-2511 EXT. 346

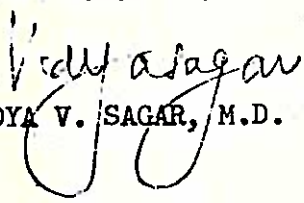
October 1, 1974

David G. Onn, Ph.D.
Division of Health Sciences
103 Willard Hall Building
University of Delaware
Newark, DE 19711

Dear Dave:

As per our conversation with Dr. Jones, I am herewith enclosing a brief description of our Nuclear Medicine Department and its facilities. If you have any further questions, please give me a call.

Sincerely yours,


VIDYA V. SAGAR, M.D.

cc: Mrs. Helen Tang

The Veterans Administration Center in Wilmington is a 351 bed acute medical-surgical hospital treating primarily the Veterans and their families. The Nuclear Medicine Service in this hospital was organized in the early 1960's and now is a full fledged department offering all current diagnostic and therapeutic procedures in Nuclear Medicine. The department is headed by a full time physician, certified by the American Board of Nuclear Medicine. In addition, a full time physicist with a Ph.D. in Radiological Physics, two experienced technologists and a secretary form the department.

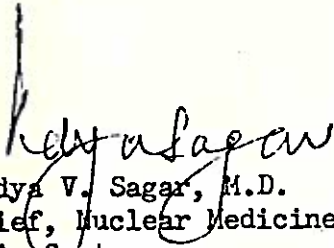
During the fiscal year 1974 approximately 2500 procedures were performed in this laboratory. The following instruments are available for student instruction:

1. Scintillation Camera with computer attachment.
2. Dual-head scanner with 5" Sodium Iodide crystals.
3. Automatic Sample Changer with the well counter.
4. Thyroid uptake system with probe and scaler.
5. Dose Calibrator
6. Various other surveying equipment.

The spectrum of diagnostic procedures comprise all the routine imaging, function studies and In-vitro tests. The therapeutic part is mainly treatment of thyroid disease with radioactive iodine. In addition, there is a single head 5" scanner and a tri-probe system available in the Nuclear Medicine Research laboratory for student use. At least four active research projects are under way in the research facility involving the use of radioactive material.

The students will be encouraged to participate in these projects.

In summary, the V. A. Center in Wilmington has a well equipped Nuclear Medicine Department with qualified and competent instructors in the clinical and basic science aspects of Nuclear Medicine to participate in the proposed Nuclear Medicine Technology program of the University of Delaware.


Vidya V. Sagar, M.D.
Chief, Nuclear Medicine Service
V.A. Center
Wilmington, DE

Executive Offices
 P. O. Box 1668

October 10, 1974

Edward Lurie, Ph.D.
 Acting Director
 Division of Health Sciences
 University of Delaware
 Newark, Delaware 19711


Dear Dr. Lurie:

After a meeting on October 3 with Dr. Onn and Mrs. Tang concerning the plans for an affiliated program in Nuclear Medicine Technology between the University of Delaware and the Wilmington Medical Center, I discussed the matter with Mr. James G. Harding, President of the Medical Center. This letter will confirm what has previously been stated: we are happy to cooperate with the University in this program. We will provide space and educational support which, as Dr. Meckelburg has already indicated, will be forthcoming from our Medical Staff. We would anticipate that this program would be developed on the same contractual agreement basis as the Program in Medical Technology. We will proceed to work out areas of cost so that the method of reimbursement for the students while in clinical rotation can be decided prior to the initiation of this portion of the program.

Mr. Harding has made it very clear that he is endorsing this program only with the proviso that there are no out-of-pocket costs for the Medical Center. This should be kept in mind at every step of the way. We will provide space and our Staff will provide the teaching. There will be a student reimbursement to the Medical Center for this teaching. A methodology for determining this will have to be agreed upon. However I see nothing in any of these areas which should interfere with the orderly development of the program along the lines outlined for a baccalaureate degree program affiliated with the Medical Center.

We are looking forward to the development of this program and our affiliation with you in it.

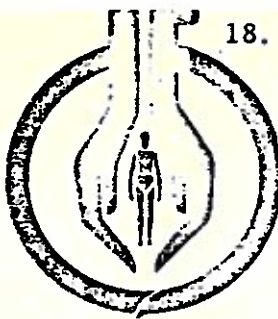
Sincerely yours



Norman L. Cannon, M.D.
 Vice President for Medical Affairs

HLC/jbd

cc: David Onn, Ph.D.



WILMINGTON MEDICAL CENTER

WILMINGTON, DELAWARE 19899

October 7, 1974

Dr. David Ohnn
Department of Physics
University of Delaware
Newark, Delaware 19711

Dear. Dr. Ohnn:

The Department of Nuclear Medicine is vitally interested in establishing and supporting a school of Nuclear Medicine Technology in this Community. There is no similar facility for teaching Nuclear Medicine Technologists at the present time, and the need for these individuals is extremely critical. The Nuclear Medicine Facility at the Wilmington Medical Center is a full service laboratory that performs all levels of Nuclear Medicine diagnostic and therapeutic studies including in vivo imaging, in vitro immunoassays and competitive protein binding procedures, and therapy procedures with radioactive iodine, colloidal phosphorous and colloidal gold.

The department consists of four physicians certified by the American Board of Nuclear Medicine, a full time, and one part time radiation physicist, and a full staff of eight technicians. The basic equipment in the department at this time consists of two gamma cameras, one with a whole body attachments, three rectilinear scanners, one twin probe dual isotope detector, two single probe uptake systems, two automatic blood volume systems, one hundred sample automatic gamma well changer, one manual refrigerated liquid scintillation counter, videotape storage and replay system, and two automatic dose calibrators. There is, of course, also the necessary monitoring equipment available both in the laboratory, and in the radiation physicist's office.

The volume of procedures performed in the Nuclear Medicine Laboratory is over 6,050 imaging procedures in the past year, which equals the amount done by Einstein Northern Division in Philadelphia, and exceeds the amount done by both the Jefferson Medical College, and the Crozier Chester Hospital in Chester, PA.

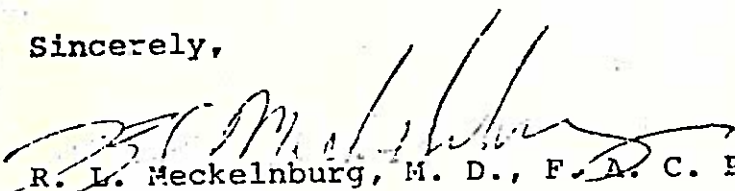
Further details of the work capability and productivity of the Nuclear Medicine Department is available in the eighty page compendium recently put together in the department and breaks down all of the activities within the department to fine detail.

In the Spring of 1975 it is anticipated that the Nuclear Medicine Department at the St. Francis Hospital will be added to the present capability, and provide increased experience and practical work opportunities for the people in the Technologist program.

It is planned to rededicate some of the space in the Nuclear Medicine Department for the teaching and training program of Nuclear Medicine Technologist's, and most of that required space is already available having been just acquired recently in the form of a student teaching room. Equipment, of course, will be available to give the student a wide range of experience on Nuclear Medicine instruments.

In summary, the Department of Nuclear Medicine is dedicated to the concept of teaching and feels that a training program for Nuclear Medicine Technologists is a necessary part of the program of the department, and should be carried forth with as much dispatch as possible.

Sincerely,



R. L. Meckelburg, M. D., F. A. C. P.
Section Chief
Department of Nuclear Medicine
Wilmington Medical Center

CC: Dr. L. Lang
Dr. N. Cannon

POLICY ON 600-NUMBERED COURSES
FOR UNDERGRADUATES

(From the Graduate Studies Committee)

600-numbered courses are graduate level courses open to advanced undergraduates with the consent of the instructor. There should be a single standard of expectation and grading. In those few cases where the number of either undergraduate students or graduate students does not permit adequate offerings, a graduate 600-numbered course may be combined with a separately numbered undergraduate course in the same section. The graduate component must then be offered with a graduate standard of expectation and grading.

The appropriateness of 600-numbered courses for undergraduate credit is subject to review by the Committee on Undergraduate Studies.

1/27/75