

UNIVERSITY OF MINNESOTA  
Graduate School

Minutes of the Executive Committee

February 15, 1961

11:30 A.M., Board Room, Campus Club

Present: Professors D. R. Briggs, W. B. Cheston, E. H. Falk, J. C. Kidneigh, D. J. Merrell, F. M. Boddy; Dr. Victor Johnson, Dr. M. B. Visscher; Deans Marcia Edwards and Thomas Chamberlin; Assistant Dean J. H. Kruskopf; Dean Bryce Crawford, presiding; Mrs. McDonald, Secretary.

1. Dean Crawford reviewed several of the proposals taken up at the last Executive Committee meeting and indicated that the proposal of Revised Admission Procedures and Transfer of Credit within the University has been approved with minor amendments, and will become effective May 1, 1961. Copies of the adopted procedures and policies will be sent to the members of the Graduate Faculty. The Executive Committee may be called upon to answer any questions which members of the faculty might have concerning the revised procedures.
2. The dean also noted that a program in Chemical Physics has been authorized by the Graduate School Executive Committee and the Physical Science Group Committee. The following members have been appointed to a committee to administer this program: Professors John Wertz, Warren Cheston, A. Moscowitz, and E. L. Hill.
3. Dean Crawford asked the committee's approval on the following matters:
  - A. Release of Ph.D. Dissertations for Public Use. Since a significant number of theses for which release cards have not been received are still being held, a time limit of one year from the time the thesis is accepted until it is released for public use will be established. The appropriate Graduate School form will be revised by deleting the opportunity for the student to specify the release date and substituting categories of "immediately," "six months," and "one year." Professor Boddy suggested a statement be added emphasizing the "immediate" category. Exceptions to this policy may be made by petition to the dean of the Graduate School.
  - B. Extending Credit for Courses Taken in Extension, by TV, or in Summer Institutes Here and Elsewhere. Credit toward the graduate program can be given provided the responsibility for the course remains with the University of Minnesota and that the instructor in charge of the course is a member of the Graduate Faculty. The student will be required to petition for transfer of credits, and there will be the normal limit on the number of credits transferred toward the Master's degree.
  - C. Use of Extension Course Credits for the Collateral Field in the Ph.D. Program. The student may petition to have not more than six credits of Extension Division courses transferred toward

his collateral field requirement provided the courses are approved by the Graduate School and are taught by a member of the Graduate Faculty.

The three items were APPROVED.

4. Off-Campus Thesis Research. The members of the committee had been asked at the January meeting to discuss with their respective group committees the proposed procedures for regulating Off-Campus Thesis Research at the University of Minnesota. Dean Crawford attended the Social Science Group Committee meeting on February 9, 1961, and was informed that no problem was involved in the Social Science area because the particular off-campus facilities under consideration were not utilized. It was suggested that the wording be changed to read "Use of Off-Campus Laboratories in Thesis Research," in order to avoid unnecessary paper work. It was agreed that the revised title be employed in future references to this program. This proposal was APPROVED.
  
5. Hastening toward Degrees. Dean Crawford asked for comments on the proposal to hasten students toward degrees which was circulated among the group committee members. Dr. Visscher asked if there would be a "grandfather clause" for students currently working toward degrees. The committee agreed in general that such a clause would be necessary but students who move from one stage of the doctorate to another would have to meet those requirements which were in effect at the time.
  - A. Master's Degree. Dr. Johnson raised a question about exceptions to the proposed five-year time limit set for obtaining the Master's degree. He pointed out that in some fields of clinical medicine, four or five years are necessary for completion of the degree requirements which may result in a considerable number of legitimate exceptions to this regulation. Dean Edwards, Professor Kidneigh, and Dr. Visscher also commented on the negative aspects of reducing the time limit to five years. (e.g. Education - handicaps teachers who return for summer work only. Social Work, Library Science and Fine Arts - students in ninety-credit Master's programs may require more time. Medicine - physicians working toward the M.S. with designation, and who have a two-year military service obligation, may not complete the work in the prescribed time.) Dean Edwards asked for a delay on a final decision until she could discuss the M.A. time limit with members of her group committee and report their reaction to the Graduate School. In general, the Executive Committee felt that a five-year time limit was too restrictive and expressed interest in a six-year time limit, or the retaining of the present policy.
  
  - B. Ph.D. Degree. Three factors were mentioned in connection with this proposal: the need for securing accurate statistics on the number of doctoral students, the real difficulty in formulating regulatory procedures which would move students to the preliminary oral stage more rapidly and the length of time required for completion of degree requirements after preliminary

oral examinations. It was mentioned that some departments now have regulations which are effective in moving students toward the preliminary oral examination. The committee agreed that it is important to identify doctoral students as such before the preliminary oral examinations are taken. Dr. Visscher proposed that the three-year program be submitted at least twelve months before the preliminary oral examination could be scheduled and that this program include the foreign language(s), collateral field or research technique to be offered, and a tentative thesis title. This proposal was endorsed by the committee.

Continuous registration to be introduced at some stage of doctoral candidacy was also supported by the committee. A proposal was made to set a five-year time limit for completion of degree requirements after the three-year program is approved by the Graduate School. Professor Boddy proposed that any petitions for extension of this time limit would have to be submitted before the expiration of the time limit. It was suggested that a possible penalty for violation of this time limit might be the re-taking of both the written and oral preliminary examinations. It was generally thought that time limits for completion of the Ph.D. degree could not be controlled effectively by invalidating courses older than X years because requirements for the Ph.D. degree are not based primarily on course work but rather on scholarly competence in the field or fields selected.

The Graduate School, on the basis of the recommendations of the Executive Committee, will draw up and submit a new proposal to the group committees for consideration.

6. Dr. Visscher asked if it might not be possible for the Graduate School to see that, in those cases where the minor department requires written examinations, the preliminary oral examinations not be scheduled until a statement has been submitted indicating that the minor written examinations have been passed.
7. A proposal to establish an alternative doctorate to the Ph.D. was discussed. The following points were made: The doctorate has become prerequisite for admission to many professional fields. Yet the Ph.D. degree, with its emphasis upon research and creativity, is often unsuitable for students in professional fields such as college teaching which now require a doctor's degree. An alternative doctorate (Doctor of Arts, Doctor of Science Education, Doctor of Science, etc.) might better serve the needs of these professional students and also protect and reserve the Ph.D. degree for its original purpose, namely creative research and advancement of knowledge. An alternative doctorate would have the quality of a Ph.D. degree but would differ in that it would signify active scholarship instead of research proficiency; it would emphasize breadth in subject matter rather than specialization; the thesis would be expository and critical rather than one of original investigation.

It was agreed that the Graduate School should abstract statements made by John Gardner, James Conant, Maurice Visscher and others on this subject and circulate them to the graduate group committees for their reaction and comments. This item will then be taken up in a future meeting of the Executive Committee.

Professor Boddy asked that three items be placed on the agenda for a future meeting of the Executive Committee: the place of the minor program in the Ph.D., the purpose and requirements of foreign languages in the Ph.D. program, and the matter of the distinction between the Master of Arts and the Master of Science degrees - why is the distinction made and by whom? Professor Kidneigh asked that the subject of the collateral field be placed on the next agenda. The question of "pass with reservation" on the preliminary oral examination will also be placed on the agenda for the March meeting.

The next Executive Committee meeting will be held Tuesday, March 21, 1961, at 11:30 A.M. in the Board Room at the Campus Club.

Respectfully submitted,

February 23, 1961

Shirley McDonald, Secretary

UNIVERSITY OF MINNESOTA  
INSTITUTE OF TECHNOLOGY  
MINNEAPOLIS 14

S.M.C.D.  
Exp. Comm. Agenda  
MAR 21 1961

March 20, 1961

SCHOOL OF CHEMISTRY  
DIVISION OF PHYSICAL CHEMISTRY

Dean Bryce Crawford  
Graduate School  
University of Minnesota  
Minneapolis 14, Minnesota

Dear Dean Crawford:

I am transmitting herewith a copy of the proposed initial Graduate Faculty in Chemical Physics. This listing has been prepared by the Chemical Physics Committee. Each member on this list has been consulted and each has agreed to abide by the rules for the Chemical Physics Program as outlined in the attached description. I quote from a letter from Dr. Nier, "It may be that additional variations should be allowed. However, I believe that the committee should be quite rigid in its interpretation of the regulations. If a regulation is found to be impractical or unworkable one can always modify it through committee action. Certainly I am prepared to go along with the situation as stated."

I am sending along a copy of the program description for chemical physics. This is essentially identical with the one which was originally submitted to you for consideration by the Graduate School. It has been reconsidered by the Chemical Physics Committee and no alterations have been found to be necessary or desirable. I should like, therefore, to submit this as the material which is to be inserted into the Graduate School Bulletin. If there are additional actions which must be taken before the program can be put into effect next fall, I should appreciate your apprising me of these.

Sincerely yours,

  
John E. Wertz

JEW:sme

Initial Graduate Faculty in Chemical Physics

B. L. Crawford, Jr.

E. L. Hill

S. Lipsky

I. J. Lowe

R. W. Lumry

C. A. Mead

A. J. Moscowitz

A. O. C. Nier

J. Overend

S. Prager

T. M. Sanders

J. E. Wertz

## The Ph. D. Program in Chemical Physics

### General Description of the Program

The course of study will include topics both in Physics and in Chemistry, together with the requisite mathematical studies. There is no specific designation of "major" and "minor" fields. Thesis research on an appropriate problem will be under the direction of a graduate faculty member in Chemical Physics. In general, candidates will enjoy the facilities of both Schools and will be eligible for fellowships available in either. It is expected that candidates in this Program will attend and participate in appropriate seminars in each of the areas of study.

### Supervision of the Program

The Chemical Physics Committee is composed of members of the Schools of Chemistry and Physics having special interests in an area broadly defined to include the following:

1. A quantitative description of the structure and properties of atoms and molecules both at infinite separation and in interacting assemblies.
2. The interaction of matter with electric or magnetic fields, including radiation.

The Committee assumes general responsibility for acceptance of candidates into the Program and for periodic review of their progress.

### Requirements for the Ph. D. Degree in Chemical Physics

Requirements for Admission into the Program. -- A prospective candidate

must first have been accepted as a graduate student either by a department of the School of Chemistry or by the School of Physics. A prerequisite for admission to the Chemical Physics program is sufficient preparation in intermediate physics, mathematics and physical chemistry. Students accepted into the Chemical Physics program remain the responsibility of the School into which they were admitted. Their progress is subject to review by the appropriate graduate studies committee. The requirements for candidacy will normally be satisfied by the end of the first three quarters in residence.

Requirements for Candidacy -- These requirements are fourfold:

1. Qualifying examinations in Chemistry -- The Proficiency examinations in Physical and in Inorganic Chemistry must be passed.
2. Qualifying examinations in Physics -- This requirement may be met by passing final examinations in one of the following courses with or without taking the courses themselves: Physics 104, 112, 173 or any course for which one of these is a prerequisite.
3. Qualifying course work -- Final examinations in three Chemistry and three Physics courses numbered above 100 must be passed with or without taking the courses themselves. One of the courses in Chemistry must be Chemical Thermodynamics. These courses may also be used to satisfy the Program of Study requirements (below) if they are included in that listing.
4. Acceptance for research -- A student must be tentatively accepted as a research student by a graduate faculty member in Chemical Physics.



Requirements for the Degree

Languages -- The language requirements may be satisfied by passing reading proficiency examinations in two of the following: German, French, Russian. These examinations are administered by the appropriate language departments.

Preliminary Examinations -- Four Cumulative Examinations in Physical Chemistry must be passed. A grade of "A" in one of the courses PCh 111, 117, 119, 212, or passing the preliminary written examination in Physics, will reduce this requirement to three Cumulative examinations. The preliminary oral examination may be taken after three Cumulative examinations have been passed and three required course examinations in Quantum Mechanics (see Program of Study below) have also been passed. The language requirements must also have been satisfied.

Program of Study -- A candidate must pass the final examinations in one of the following quantum Mechanics sequences:

Physics 181, 183, 185, 210  
Physics 231, 232, 233  
Phys. Chem. 204, 205, 206

In addition, the student must pass the final examinations in the following courses:

Phys. Chem. 111, 117, 119, 212  
Physics 171, 172, 173  
Mathematics 151, 152, 153, 173 or allowed substitutions.

The Chemical Physics committee is empowered to waive formal course requirements when in its judgment satisfactory evidence of equivalent training is adduced.

Three-year Program -- The usual Graduate School rules apply. Since there is no minor field of study, all courses on the three-year program must be passed with a grade of B or better.

Thesis -- The requirements are met by satisfying the regulations of the department in which his adviser is located.

Final Examination -- After acceptance of the thesis, a final oral examination on the thesis and selected topics must be passed. See general regulations of the Graduate School.

Note: No M.S. degree in Chemical Physics is offered. However, candidates for the Ph.D. degree may apply for an M.S. degree in either Chemistry or Physics after satisfying the requirements of the appropriate department.