

UNIVERSITY OF MINNESOTA  
Graduate School

Minutes of the Executive Committee  
May 25, 1961  
12:45 P.M. Campus Club

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

1. Dean Crawford discussed briefly the letter he wrote to Professor Robert L. Jones, chairman of the University Committee on Fees, describing a proposed change in the fee structure which will stimulate graduate students in attaining their Ph.D. degrees. The dean reported that Professor Jones indicated that a meeting of the Fees Committee will be called shortly and requested the dean to attend this meeting to discuss the proposal. A copy of Dean Crawford's letter is attached to these minutes; copies will also be sent to the members of the University Committee on Fees.

2. At the April meeting, the Graduate School Executive Committee gave tentative approval for the authorization of a program in Genetics and asked Dean Crawford to work out details and incorporate recommendations made by the group committees involved. Copies of the final proposal on which minor modifications were made were distributed to the Executive Committee. It was again emphasized that the sub-committee appointed for this program is not a new group committee; that it will be advisory in nature and will send its recommendations to the group committees concerned.

Voted that the program in Genetics be authorized for Master's and Ph.D. degrees.

3. Dean Crawford briefly summarized the background and general purposes of the Center for Advanced Study, a special unit of the Graduate College of the University of Illinois. In general, the Executive Committee endorsed the principle of such a center at Minnesota and agreed that the establishment of a similar project be explored further. The relationship of a center of this type to the University's single quarter leave system was briefly discussed. The committee noted that not all single quarter leaves allowed by the Board of Regents were awarded primarily because of departmental budget considerations. Professor Cheston suggested that in exploring the possibilities for a similar center at Minnesota, we might well look into the Center for Advanced Study in operation at MIT. This program permits faculty to concentrate on research for one or two year periods relinquishing other duties. He also indicated that MIT's operation probably receives considerable private support moneys. Dr. Visscher suggested that we might enlist private support to help finance this kind of program at Minnesota and that in some respects the University has not been as active as it might in obtaining private funds. If such a center were established there might be an opportunity to publicize more widely the kinds of programs and projects supported by private

sources. Copies of the brochure describing the Center for Advanced Study at Illinois were given to the Executive Committee and additional copies will be obtained for distribution to the group committees.

4. This spring all applications for research grants (excluding those in the medical areas) were reviewed by the General Research Advisory Committee after preliminary evaluation by individual committee members most closely allied with the research area. The Executive Committee discussed the advantages and disadvantages of this method compared with the previous practice of having the group committees review applications in the nonmedical and Minnesota Institute areas. The General Research Advisory Committee recommended to the dean that the current method of handling the applications be retained. Professor Falk pointed out that the Language and Literature Committee would recommend that the group committees be given the opportunity to review the applications for reasons of (1) morale and (2) "information giving." It was suggested that the group committees might review requests and make recommendations to the General Research Advisory Committee. If this practice were adopted, the deadline for applications would have to be moved up so that notification of the applicant would not be delayed too long. Dean Crawford suggested that an earlier deadline such as March 15 might be set allowing time to send applications to the group committees for their evaluation before they are considered by the General Research Advisory Committee. Dean Crawford indicated that he will review the present procedure in the light of the discussion.

5. Dean Crawford asked the chairmen of the group committees to outline their procedures in the selection of group committee members in their areas. The following practices were indicated:

- a. Social Sciences: rotation of membership among smaller departments; larger departments, permanent membership. Nominations from graduate faculty. Final selection by dean.
- b. Education: selection by dean after consultation with department heads and chairmen.
- c. Physical Sciences: selection by dean; names suggested by group committee.
- d. Agriculture: selection by dean upon recommendations from Agriculture Group Committee.
- e. Language & Literature: selection by dean upon recommendation from departments to group committee which in turn are passed on to dean.
- f. Medical Sciences: selection by dean on advice of dean of Medical Sciences and the group committee.
- g. Biological Sciences: selection by dean after consultation with group committee chairman.

It was agreed that the specific mechanism for nominations or advising the dean should remain with the various areas.

6. Proposed Graduate School Research Center - a brief report on the possibility of enlarging the Social Science Research Center to include other areas was given. Dean Crawford stated that such a center could serve as a central location for sending out instructional materials and supplying information on possible sources of funds for faculty research in the Natural Sciences as well as the Social Sciences. An advisory council for the Social Sciences has been in operation since the center was established. The dean indicated that he plans to appoint an ad hoc committee next fall to study the need for a similar advisory council in the Arts and Humanities.

7. Several items which have been on the Executive Committee agenda throughout this academic year will be carried forward to next year. The Committee suggested that Dean Crawford appoint ad hoc committees to study current practices and present recommendations on several subjects: (1) the necessity or desirability of Graduate School approval for the "100" numbered courses; (2) the place of the minor in the Ph.D. program; (3) the collateral field and special research technique; and (4) the alternative doctorate.

8. Copies of the proposed design for the revised Graduate Faculty Nomination Card were distributed to the Executive Committee for comments and suggestions. Dr. Visscher asked that we be more specific in our instructions regarding the field or area in which the nominee is qualified to teach, advise students and serve on committees. It was agreed that this item on the card be labeled, "Graduate School Major or Minor Area." Several other details were discussed and the revised card will be printed and distributed as soon as possible.

9. Professor Cheston raised a question with regard to persons teaching graduate courses while working toward an advanced degree at the University. Apparently graduate students in some areas are being assigned to teach graduate level courses and in some cases the instructor is teaching the course before formal approval by the Graduate School is sought. Professor Cheston expressed concern with this practice since it means that graduate students are teaching courses and assigning grades to other graduate students. It was agreed that Dean Crawford should write to the department heads in the Physical Science and Agricultural Science areas and indicate that normally (except under extraordinary circumstances) no appointments to the graduate faculty will be approved for individuals working toward an advanced degree at Minnesota.

Dr. Visscher asked whether there might be some thought given to the possibility of forming a new category for those appointed to teach graduate courses only (presently designated A-1), and that there be a definite distinction between members in this category and the others. The question of which members of the graduate faculty should be entitled to vote was also raised. Several committee members asked for the opportunity to poll the faculty in their areas on these matters. The subject will be placed on the agenda for next year.

10. The Committee discussed credit requirements for starred courses for the Master's Plan B program. The Graduate School Bulletin states, "... of the 45 credits, at least 9 quarter credits either in the field of concentration or in related fields must be earned in advanced courses (courses identified in this bulletin by a single asterisk), seminars, or independent work under faculty supervision and requiring the preparation of written reports representing the

quality but not the range of the Master's thesis." Professor Falk indicated that in some instances, the credits for starred courses in which students enroll do not total 9 even though the papers submitted for this requirement meet the quality and other standards for starred papers. There was tentative agreement by the Executive Committee to modify the statement in the Graduate School Bulletin to read, "...9 quarter credits or papers in 3 starred courses." Professor Cheston said that in starred courses in some areas in the Physical Sciences, term papers are required as well as the starred papers and that this may place an additional burden on the student. Dean Crawford stated that the Graduate School should not change its requirements because of the diversity of practices among various areas, but that these problems should be handled by the individual departments through their respective group committees.

Respectfully submitted,

(Mrs.) Shirley McDonald  
Administrative Secretary

C O P Y

May 17, 1961

Professor Robert L. Jones  
112 Murphy Hall

Dear Professor Jones:

I am writing you as chairman of the University Fees Committee to ask that you lay before that committee a request from the Graduate School for some changes in the fee structure for graduate students. You yourself know, through discussions in the Group Committee, of the considerations which have been under way in the Graduate School; you will realize that what we are asking of the Fees Committee is not closely tied to the specific numbers I will suggest. I will therefore place emphasis on the purposes of the changes suggested, with the understanding that the numbers I shall use, though I believe they are reasonable and would work satisfactorily, are not sacred to us.

Our consideration of changes in fees arises from our desire to keep before graduate students the desirability of making constant progress toward their degrees, particularly in the case of doctoral candidates. We have considered various devices which might be used, examining those used by other universities, and the proposal we have in mind is certainly not without precedent. It makes sense to divide the program of doctoral study into two parts, the first part leading up to passage of the oral preliminary examinations, and the second part concerned with the completion of the thesis work. We should like to stimulate students to make constant progress on their thesis work during the second period by requiring continual registration for the maintenance of their candidacy, requiring them to register for at least three quarters in each year. This would obtain whether they were on campus or off campus, whether they were using University facilities or not. Since at the present time many of our students in this second phase of their doctoral study do not register at all, it would seem appropriate to have a nominal or at least strongly reduced fee for this continual registration.

The second part of our proposal has to do with the stimulation of students to the early completion of their first phase, namely completing the work through their preliminary examinations. The best stimulus we could find during this phase is the economic one, and we found ourselves attracted more and more to a device used by two or three universities, namely a marked reduction in graduate fees when a student completes his oral preliminary examination.

Having sketched the purposes in our minds, let me use specific numbers to set out a definite proposal. At the present time, graduate students at whatever stage of progress pay either full-time tuition of \$71.00 (resident) or \$180.00 (non-resident); or if they are pursuing only thesis work or less than six credits of course work, a tuition of \$35.50 (resident) or \$90.00 (non-resident). I am proposing no change in these fees up to the time of a student's completing his oral preliminary examination for the Ph.D. After that milestone, I propose

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that the distinction between resident and non-resident be dropped, and that all doctoral candidates who have passed their preliminary oral examinations pay a tuition fee of \$50.00 if they are registered for seven credits or more, or \$20.00 for six credits or less, or for thesis work only; they will also be required to register continuously until the granting of their degrees, at least three quarters each year; failure to maintain continuous registration will entail a second passing of the preliminary examination.

We have discussed in the Graduate School Executive Committee the educational implications and probable effects, and I believe they would be good and am prepared to discuss and defend them. It is also appropriate to ask what effect such a change would have on the tuition income of the University. Here I can submit some facts based on a sampling of our files in the Graduate School records. There are approximately 500 students in the "active" status (who have registered in some quarter during the past two years) who have passed their oral examinations. There are 545 graduate students in the "inactive" category (who have registered in some quarter since 1950 but not during the last two years) who have passed their oral examinations. Not all of the 500 "active" students registered in fall quarter 1960, nor do most students in this category register every quarter. A comparison of the fees paid by Ph.D. candidates in fall quarter 1960, and the amount which would be received on a "flat fee" of \$20.00 per quarter charge for all candidates in the active category, showed a possible loss of \$1,500.00 had we been on the new proposed basis. However, there would certainly be a significant number of the 545 "inactive" students who would also register if required, for we have knowledge of many instances of students carrying on their thesis work well beyond any two-year period. It therefore seems probable to me that no substantial loss in tuition income would result from the proposal we are making. Again, we would be glad to make more detailed studies of the records in the Graduate School, and certainly to adjust the proposed fees to make sense.

I would be very glad, of course, to meet with the Fees Committee to discuss these proposals. With regard to timing, it is of course quite clear that we cannot propose changes to be effective fall quarter 1961, for the entire new proposal would require discussion and adoption by the graduate faculty in terms of the educational implications. I should, however, like to move forward with the thought that we may complete our discussions and reach a decision in time to activate it for fall quarter 1962. This would probably mean completing our discussions during fall quarter 1961, before the end of the present calendar year.

With appreciation of your consideration of this proposal, I am,

Sincerely yours,

Bryce Crawford, Jr.  
Dean

BLC:jt

January 30, 1961  
Revised February 13, 1961  
Revised March 13, 1961  
Revised May 24, 1961

## GRADUATE PROGRAM IN GENETICS

### Purpose

The primary purpose of developing an interdepartmental graduate program in Genetics is to provide a means whereby students in various administrative departments of the University may take major or minor work for the master's degree and Ph.D. degree in Genetics. At present, students in the Department of Agronomy and Plant Genetics may elect to take major work in Plant Genetics. Students in other departments, including Animal Husbandry, Bacteriology, Botany, Dairy Husbandry, Forestry, Horticulture, Poultry Husbandry, and Zoology must take major programs identified with those departments even though their real interests are in Genetics.

A secondary purpose of developing an interdepartmental graduate program in Genetics is to strengthen teaching in Genetics at the University by mobilizing available resources and better coordinating course offerings.

Finally, the organization of a Graduate Faculty in Genetics will provide a common meeting ground for Geneticists on the staff and may be expected to foster stronger research programs in various areas of genetics. It is recognized that scientific disciplines frequently transcend the boundaries of administrative departments. This is obviously true so far as genetics is concerned. Limitations of departmental organization need not, however, be restrictive to the full interplay of University resources in graduate teaching and research in the scientific discipline.

### The Graduate Faculty in Genetics

The Graduate Faculty in Genetics shall include all qualified faculty members who are teaching or conducting research in the various fields of genetics and in areas that are closely related thereto.

The Subcommittee on Genetics (described below) will be the executive committee of the Graduate Faculty in Genetics and the chairman of the committee will be responsible for (1) calling and conducting regular staff meetings for discussion of problems related to the graduate program; (2) arranging for regular staff seminars for review of research programs and current topics of interest in genetics; (3) arranging for visiting lecturers and other programs of interest to Geneticists; and (4) seeking funds for training grants, visiting professors and other activities that will contribute to the graduate program in genetics. The latter function shall not be interpreted, however, as abrogating the rights of individual staff members or units to seek such funds, arrange for visiting professors or to carry on other such activities. The chairman may appoint committees from the Graduate Faculty in Genetics to facilitate carrying out of these responsibilities.

### Subcommittee on Genetics

A special Subcommittee on Genetics, appointed by the Dean of the Graduate School, shall have general responsibility for the interdepartmental phases of the graduate program.

Composition of the Committee. The committee shall consist of five members. Each committee member shall be appointed for a term of five years, except that initially one shall be appointed for one year, one for two years, one for three years, one for four years, and one for five years. The chairman of the committee shall be designated by the Dean of the Graduate School. Committee members may be reappointed without limitation on number of terms of service on the Subcommittee.

Responsibilities of the Subcommittee. In addition to the activities specified above as the executive committee of the Graduate Faculty in Genetics, the Subcommittee shall assist and advise the appropriate Group Committees (in the Medical Sciences, the Biological Sciences, or the Agricultural Sciences, as may be indicated) in formulating recommendations to the Dean of the Graduate School on the following matters:

1. Approval of master's-degree programs, doctoral programs, thesis titles, language options and other items usually acted upon by a Group Committee.
2. Appointment of the student's examining committees.
3. Approval of new course offerings in genetics.
4. Action on appointments to the graduate faculty in genetics.

The committee shall arrange for an orderly procedure of approval of minor programs in genetics.

The committee shall make provision for giving and evaluating the comprehensive written examinations for master's and Ph.D. candidates with major programs in genetics.

### The Administrative Departments

The individual departments, through their regularly constituted administrative channels, retain responsibility in appropriate areas of genetics for:

1. Appointments to the academic staff of the University.
2. Continuation, reduction or initiation of research in any appropriate area of genetics.
3. Initiation of new courses and discontinuation of old courses in genetics and the provision of staff and assistance for such teaching.
4. Recruitment and appointment of research and teaching assistants in the department.
5. Recommendation to the Graduate School regarding the acceptance of applicants for admission.
6. Awards of scholarships or fellowships that may be available to students in that department.

Proposed for Inclusion in Graduate School Bulletin

GENETICS

A program of study in Genetics, leading to the master's and Ph. D. degrees, respectively, may be elected as a major. The major adviser may be selected from among qualified members of the graduate faculty in this field. All programs of students electing Genetics as a major must be approved by the Subcommittee on Genetics of the Graduate School. Genetics may also be selected as a minor area by students with a major in other appropriate areas. Approval of minor programs in genetics will also be the responsibility of the Subcommittee on Genetics.

Prerequisites. A strong foundation in biological sciences; 3 credits in genetics; mathematics through college algebra (in some areas, mathematics through calculus); chemistry through organic chemistry 62 or equivalent; college physics or equivalent. Deficiencies must be removed before the student can become a candidate for a degree. Students who are preparing for graduate study in genetics are urged to become proficient in at least one foreign language prior to entering the Graduate School.

Master's degree. Offered under Plan A or Plan B.

Doctor's degree. For major study, the student will develop a general competence in genetics and will conduct thesis research which may be in special areas of genetics such as (1) Cytogenetics, (2) Quantitative and Population Genetics, (3) Biochemical and Physiological Genetics, (4) Plant Breeding, (5) Animal Breeding, (6) Human Genetics, (7) Radiation Genetics, (8) Microbial Genetics, (9) Evolution and Speciation, and (10) Developmental Genetics. The student will develop a particularly thorough knowledge of more than one of the special areas of genetics. All major students will be expected to attain competence in statistics including the design of experiments and the statistical analysis of the data. Dependent upon the areas of genetics in which the student has special interest, he will be expected to have suitable competence in one or more related areas of science such as chemistry, biology or mathematics. For students with a genetics minor, general competence in genetics will be required.

Language Requirements. For the master's degree, one foreign language, preferably German. For the Plan B, the language requirement may be waived. For the Ph.D. degree (1) two foreign languages, one being preferably German, or (2) one foreign language, preferably German, plus a special research technique or collateral field.

Graduate Faculty in Genetics

Professor	Associate Professor	Assistant Professor
Elmer R. Ausemus (Agron. & Plant Genetics)	S. Gaylen Bradley (Bacteriology)	Florian I. Lauer (Horticulture)
Cyrus P. Barnum (Physiological Chemistry)	Richard S. Caldecott (Agron. & Plant Genetics)	James C. Sentz (Agron. & Plant Gen.)
Charles R. Burnham (Agron. & Plant Genetics)	Joseph G. Gall (Zoology)	Charles W. Young (Dairy Husb.)
Ralph E. Comstock (Animal Husb.)	Charles E. Gates (Agr. Exp. Station)	
Troy M. Currence (Horticulture)	David J. Merrall (Zoology)	

Professor

- A. Orville Dahl  
(Botany)
- Jean W. Lambert  
(Agron. & Plant Genetics)
- Will M. Myers  
(Agron. & Plant Genetics)
- Scott S. Pauley  
(Forestry)
- Sheldon C. Reed  
(Zoology)
- Ernest H. Rinke  
(Agron. & Plant Genetics)
- Robert N. Shoffner  
(Poultry Husb.)
- Arthur N. Wilcox  
(Horticulture)

Associate Professor

- William E. Rempel  
(Animal Husb.)
- Leon A. Snyder  
(Agron. & Plant Genetics)
- Horace L. Thomas  
(Agron. & Plant Genetics)
- Francis A. Spurrell  
(Veterinary Medicine)

Courses in Genetics

- |                   |  |
|-------------------|--|
| Agron. 131f       | Principles of Genetics (4 cr; prereq 30 or equiv)  |
| Zool. 170f        | Advanced Genetics (3 cr; prereq 15 cr. incl 83, and #)   |
| Agro. 240w        | Advanced Genetics (3 cr; prereq 131 or equiv)  |
| Agro. 241f,w,s    | Research in Plant Genetics (cr ar)   |
| Agro. 246w,s      | Genetics Seminar (1 cr)  |
| Agro. 253s        | Methods in Plant Genetics (3 cr; prereq 252)   |
| Agro. 255s        | Special Topics in Genetics (2 cr [can be taken for cr more than once]; prereq 252 or consent of staff)                         |
| Zool. 251,252,253 | Research in Genetics   |
| Agro. 252f        | Cytogenetics (4 cr; prereq 240, Bot 118)   |
| Bot. 118f         | General Cytology (5 cr; prereq 10 cr in biology, botany, or zoology, elementary genetics or #)                                 |
| Bot. 119w         | Experimental Cytology (5 cr; prereq 118 or Zool 161; offered 1960-61 and alt yrs)  |
| Bot. 120s         | Research Methods in Cytology (3-5 cr; prereq 3 or 5 or Biol. 3 or old N Sci 9, 118 or 119, and #; offered 1960-61 and alt yrs) |

Bot. 229f,230w,231s,232su	Research Problems in Cytology (cr ar)
Bot. 255f,266w,257s	Seminar in Cytology (1 cr per qtr)
Zool. 160w,161s	Cytology (6 cr; prereq 15 cr or incl Biol. 3 or Zool. 3 or equiv with #)
Zool. 171w	Genetics of Speciation (3 cr; prereq 15 cr or incl 83 or #)
Agro. 261w	Quantitative Inheritance (3 cr; prereq 131 or equiv, 248 or equiv)
An. Hu. 204s	Quantitative Inheritance II (3 cr; prereq 162, Agro. 261)
An. Hu. 205	Quantitative Inheritance III (3 cr; prereq 204)
Agro. 235f	Radiation Biology (3 cr; prereq VSR 219 or equiv and #)
Bact. 110w	Microbial Genetics (3 cr; prereq 53 or #; offered 1960-61 and alt yrs)
Bact. 111f	Advanced Laboratory (3 cr; prereq 110 or 112 or #; offered 1960-61 and alt yrs)
Pl. Pa 215f	Genetics of Plant Pathogens (3 cr; prereq 1 or 51, 156 or equiv, and Agro. 131)
Agro. 132w	Farm Crops Plant Breeding (4 cr; prereq 30 or equiv)
Hort. 110w	Horticultural Crop Breeding (3 cr; prereq Agro. 30)
Hort. 248	Truck Crop Breeding (3 cr; prereq 110 or Agro. 132; offered 1960-61 and alt yrs)
Hort. 249f,w,s	Research in Horticultural Crop Breeding (cr ar)
For. 150f	Forest Genetics (3 cr; prereq Agro. 30 or 131, or #)
Agro. 242f	Plant Breeding Seminar (1 cr per qtr)
Agro. 243s	Methods in Plant Breeding (3 cr; prereq 132 and 240 or equiv)
Agro. 244su,f	Laboratory Methods in Plant Breeding (cr ar; prereq 132 or equiv)
Agro. 245s	Topics: Plant Breeding (2 cr; prereq 240, 243, and 244 or equiv or #)
An. Hu. 162w	Animal Breeding (3 cr; prereq Agro. 30 or equiv)
An. Hu. 201f	Advanced Animal Breeding I (3 cr; prereq 162, Biom. 101, Zool. 171)

Dy. Hu. 122w Dairy Production II (4 cr; prereq 49, Agro. 30 or equiv)

Dy Hu. 217f Dairy Cattle Inheritance (3 cr; prereq #)

Po. Hu. 102w Poultry Breeding (4 cr; prereq 1, Agro. 30; offered 1961-62 and alt yrs)

Po. Hu. 216f,w,s Research in Poultry Breeding (cr ar; prereq 9 cr in genetics or equiv)

VSR 131 Heredity in Animal Disease (3 cr; prereq VMC 104, #)

Zool. 175s Human Genetics (3 cr; prereq 83 and #)

Ph. Ch. 211s Nucleic Acid and Protein Metabolism (3 cr; minimum 8 students; prereq 100-101; offered 1960-61 and alt yrs)