FACULTY HANDBOOK

DEPARTMENT OF BIOLOGY

UNIVERSITY OF NORTH DAKOTA

GRAND FORKS, NORTH DAKOTA

JUNE 2008

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I. ORGANIZATION AND ADMINISTRATION

A. General Information

1. Introduction

Although biology has been taught in the University since 1884 when the institution opened, the Department of Biology was not formally instituted until 1889 when William Patten assumed the position of Professor of Biology, replacing Henry Montgomery, the first scientist and the first faculty member appointed by the University. Biology thus became the first department devoted to a single science, an arrangement that has been unchanged ever since its origin.

Biology grew in size and importance as the University matured. The faculty grew to two in 1900 and to three between 1912 and 1914 while Melvin A. Brannon was Dean of the Liberal Arts College and Director of the Biological Station, as well as Professor of Biology. With Brannon's departure in 1914 the department settled in to a faculty of two until 1946 when the influx of returning World War II servicemen resulted in the establishment of a third position. By 1954 the number rose to four, then five in 1957. It reached 7 in 1961, 11 in 1963 and 16 in 1969. In 1986 an additional position was approved, which brings the current total to 17 faculty positions.

Because none of the first students at the University were prepared for university-level instruction, the first instruction in biology was at a preparatory (= high school) level. Such instruction was continued for another 15 years and then terminated. Undergraduate studies for the first 30 years or so were limited to the field of science; specialization in biology was not possible. A Biology major was available in the Teachers College about 1910 but did not appear in the College of Liberal Arts until 1916. From 1906 until 1935 one of the two full-time faculty members was a botanist, the other a zoologist. Majors in Botany and Zoology were available between 1926 and 1931 and again after 1964. The Bachelor of Science in Fishery and Wildlife Management, the department's only designated degree, was established in 1964.

The first post-graduate studies at UND were initiated in Biology in 1890 by Patten. The first Master of Science degree in Biology was awarded in 1900. The Doctor of Philosophy degree was initiated in 1958 and the Doctor of Arts in 1969.

Research was important throughout the department's history. Patten was an evolutionary animal morphologist. His replacement, Brannon, developed aquatic biology to significant levels. George C. Wheeler established a strong reputation in social insects. In the early 1960's the department diversified into a greater breadth of areas. Although short of the necessary faculty size to provide representation of the great diversity represented in modern biology, the department contains faculty expertise in each of the major sub-disciplines except molecular biology and microbiology, both of which are represented in the University in separate

departments of the Medical School. The Biology Department has been honored five times (in 1971, 1982, 1989, 1996, and 2002) by the University in recognition of its outstanding record in research.

2. Mission Statement

As part of a University-wide effort, the department prepared a mission statement in 1978. This statement has been reproduced below.

The general mission of the Biology Department is partitioned into three major categories: teaching, research and service. Course work at the undergraduate level provides non-majors with an overview of biology and for majors, a broad base in the biological sciences, including population and community biology, organismal biology, and cellular and subcellular biology. Work at the graduate level provides opportunities for students to develop expertise in more specialized areas. Diverse research activities, both basic and applied, are ongoing and most programs involve participation by undergraduate and graduate students. The department's role in public service somewhat overlaps the other categories but primarily involves the dissemination of biological information to specialists and to the general public, and many faculty serve as consultants to various governmental agencies, industry or professionals.

1) The department provides introductory level courses to non-majors as one alternative to satisfy the University science requirement; it also provides advanced undergraduate courses as cognates or electives.

2) A major strength of the department is the broad spectrum of coursework and research opportunities generally not available in institutions with departments represented by biological sub-disciplines. As a result, students obtain broader views and can develop more immediate rapport with non-biologists.

3) Even though similar professional and graduate programs are offered at comparable institutions in the region, the department is unique in having them in a single unit, exposing students to more biological disciplines.

4) The department promotes individual and interdisciplinary research, either basic or applied, at local, state, regional and national levels.

5) The department provides graduates for state and provincial agencies such as natural resource, game and fish, and health departments; for national agencies; for academic positions in universities and colleges; and for various industrial concerns where they are employed as biological consultants.

6) The department maintains a dynamic and viable program at the undergraduate and graduate levels and has expanding basic and applied research programs relevant to the state and nation.

The Select Mission of the Department of Biology includes the following:

1) To offer lower division courses for non-majors.

2) To offer lower division courses for departmental majors and students majoring in medicine and allied health fields, psychology, anthropology and archaeology, and physical education.

3) To offer upper division advanced and special courses to biology majors, allied health fields, psychology, anthropology and archaeology, and geology.

4) To offer graduate level courses to graduate students in biology and other disciplines in the University.

5) To maintain and promote basic applied research programs which are often tied in with graduate programs.

6) Advising undergraduate students in programs leading to the Bachelor of Science degrees in Biology, Fisheries and Wildlife Biology and to the minor in Biology.

7) Advising and directing graduate students in research programs leading to the Master of Science and Doctor of Philosophy degrees.

B. Administration

1. Chairperson

a. The principal function of the chairmanship should be the academic enhancement of the department, particularly in fostering quality research and teaching. Furthermore the chairperson should function primarily in matters pertaining to leadership, policy and major decision making, in contrast to routine department administration.

b. Department faculty elected to the position of chairperson are requested to serve under conditions different from those stipulated in their original appointments. Consequently, a chairperson-elect has the right to renegotiate his/her contract and receive a new letter of appointment for the period to be served as chair.

c. The department further recognizes the chair as a unique position that should not be subject to the proportional time commitments of teaching, research and service established for other faculty. Normally, one major teaching preparation per year would be expected for a chairperson.

d. Department guidelines for allocation of GTAs shall not apply to laboratory courses taught by the chairperson.

e. The department recognizes the chair as a 12-month position, and the contract should be so written.

f. A significant additional stipend should be applied to the position of chair, in recognition of the nature of its responsibilities.

g. There is critical need to relieve the chair from the burden of routine administration. The accomplish this, the following steps should be taken or maintained:

1) Obtain additional and higher level support staff (eg. administrative assistant) to assume the responsibility of routine administration.

2) Maintain the current committee structure, as presently constituted.

3) Continue to remind the administration of the need to reduce routine, trivial and redundant paperwork.

h. In the absence of the chairperson of the department, the Executive Committee chairperson will serve as acting chairperson of the department.

Minutes: 14 April 1980; 31 January 1983

2. Faculty

The faculty consists of all full time tenured and tenure track individuals engaged in teaching, research and service functions of the department, exclusive of the teaching/research assistants, postdoctoral, research associates, adjunct professors, emeritus professors and lecturers.

The faculty is the policy-making body of the department. Meetings of the faculty are called by the chairperson at the chair's discretion or in response to requests submitted by departmental committees or individual faculty members. Records of faculty meetings are kept by the administrative secretary and distributed to all members. Bound copies of minutes are maintained in the Alumni Conference Room.

Minutes: 20 February 1987, 8 February 2006

3. Committees

Committees were established in the mid 1960's to meet specific needs. The establishment of standing committees was formalized on 8 November 1967 with the authorization of the Executive Committee. Other standing committees were approved on 3 January 1968. Major revisions of committee structure occurred on 15 October 1969, 7 May 1973 and 12 September 1978.

a. Standing Committees

1) Executive Committee

Membership: 3 faculty plus department chairperson as ex-officio member.

(Interim chairs serving less than one academic year shall not be considered members.) The elected individual in the final year of service will be designated chair. A fourth person may be asked by the department chairperson to participate in faculty evaluation.

Selection Method: One member shall be elected for a 3 year term each year.

1) The roster of full-time faculty of the department will serve as the ballot for nominating individuals for membership on the committee.

2) The ballot will be distributed to all members of the faculty, as defined in Section I ("Organization and Administrative') of the Biology Department Handbook (including those off campus) during the last month of the spring semester.

3) Each member of the faculty will indicate his or her preference and return the ballot to the department chairperson within one week after its receipt.

4) The two individuals who receive the most nominations will be declared the nominees.

5) Should ties occur, a run-off election will be held to reduce the field to two nominees.

6) The names of the nominees will be submitted to the faculty for a vote by written ballot. Ballots will be returned within one week after their receipt. The nominee receiving the highest number of votes will be declared elected to membership on the committee.

7) Full-time members of the faculty on leave shall be provided the opportunity to ballot by mail for both the nominations and the final vote.

8) A faculty member may be elected for no more than two consecutive three year terms.

9) Terms of Executive Committee members shall begin 1 July and end 30 June.

10) In the event that an executive committee member is on leave for one or two semesters, temporary replacements will be elected. Election of temporary members will occur as soon as possible. However, where a temporary and regular three-year term are being filled at the same time, the regular election shall take place with the selection of a temporary member occurring as soon as possible thereafter.

Should a temporary member replace a member in his or her third year,

the most senior regular member shall become the chairperson of the executive committee.

Duties:

1) Act on behalf of the faculty at times when the faculty cannot be convened.

2) Act on behalf of the chairperson in his/her absence, and in such emergency situations as recognized by and agreed upon by a majority of the members of the committee.

3) Advise the chairperson on reappointment of non-tenured faculty members.

4) Advise the chairperson on promotions, tenure and salary prior to submission of these recommendations to the Dean.

5) Conduct such faculty evaluations as mandated by the State Board of Higher Education or requested by the UND Administration. In carrying out this function, the committee shall operate without the department chairperson.

6) Consider faculty appeals arising from a chairperson's negative recommendation for appointment to the Graduate Faculty.

7) Serve as the department "Planning Committee" when such need arises.

8) Assign priorities and budgetary allocations for equipment and supplies (also special projects involving cost-of-program monies), and present such recommendations to the faculty for their approval.

9) Advise the chairperson on space problems.

10) Serve as the selection committee for the Wheeler Lectureship. In carrying out this function the seminar coordinator will also participate.

Minutes: 8 November 1967; 15 December 1967; 15 October 1969; 19 December 1969; 22 September 1971; 10 May 1972; 10 October 1972; 10 May 1973; 11 May 1973; 5 September 1978; 29 October 1980; 1 November 1982; 12 September 1983; 30 April 1986; 28 February 1997; April 1999; 8 Feb 2006.

2) Academic Programs and Student Awards Committee

Membership: 3 faculty, 1 graduate student,

1 undergraduate student.

Selection Method: Faculty by appointment; undergraduate and graduate student appointments chosen by the committee.

Duties:

1) Evaluate the degree programs and their curricula, including extra-departmental requirements.

2) Receive, review and make recommendations on new courses and changes in existing courses.

3) All matters pertaining to curricula, schedule, and change of student programs at both the undergraduate and graduate levels which require faculty action are within the jurisdiction of this committee.

4) Solicit from, and evaluate applications of, graduate and undergraduate students seeking research stipends. APSAC will inform the faculty and students (in writing) as to the distribution of allotted funds.

5) Each spring the committee shall solicit nominations and recommend to the faculty those student awards given by the department (i.e., Edith Larson, Floyd Hunter, and Graduate Student Research Awards and Stella Fritzell Scholarships).

Predecessor committees included the Introductory Course Coordinating Committee, the Graduate Admissions and Assistance Committee, the Curriculum Committee, the Edith Larson Award Committee, the Outstanding Graduate Student Award Committee, the Graduate Student Review Committee, the Graduate Student Affairs Committee, the Academic Programs Committee, and the Student Affairs and Awards Committee.

Minutes: 12 September 1978, 22 November 1982, 7 December 1993

Research Committee

Membership: 3 faculty.

Selection Method: By appointment.

Duties:

1) The making of recommendations to the chairperson on expenditure of Indirect Cost funds.
2) The making of recommendations to the faculty on policy changes and establishment of new policies designed to enhance research in the department.
3) Carrying out activities aimed at enhancing research productivity, quality

and visibility.

A Research Grants Committee was established on 3 January 1968 and abolished on 15 October 1969. The present committee was established on 6 November 1981.

Minutes: 6 November 1981; 25 March 1982; 21 September 1983; 10 May 1984

4) Field Station Committee

A Biology Field Station Committee, consisting of 3 Biology Department faculty members, was established on 3 January 1968. It was abolished 12 September 1978 and was then reauthorized in 1981.

On June 21, 2007 the president of the University of North Dakota approved the Biology Field Station Operation and Management Policy (see Appendix I) that established a University of North Dakota Field Station Committee, which replaced the Biology Field Station Committee. The University of North Dakota Field Station Committee consists of: two (2) appointees from the Biology Department, one (1) appointee from the Vice President for Finance and Operations who will chair the committee, one (1) appointee from the office of the Vice President for Research, and one (1) appointee by the Dean of the College of Arts and Sciences.

Minutes: 6 November 1981; Vice President for Finance Memorandum dated June 25, 2007

5) Centennial Fund Committee

Membership: All Biology faculty members who have contributed to the fund.

Duties:

1. Recommend to the chairperson on expenditures of the income from investment of the fund.

2. Solicit donations to the fund.

3. Audit the fund account annually.

Minutes: 10 May 1984

b. Ad Hoc Committees

Ad hoc committees are created by appointment when needed and terminate at the completion of the assigned task. Examples of such committees include search committees, building and planning committees.

4. Officers

Responsibility is delegated to an individual who carries out specific functions. Problems and policy changes which are of substance must come before the faculty for advice and consent.

Selection Method: Faculty appointment by the department chairperson and normally for 2-year terms.

Minutes: 12 September 1978

a. Graduate Studies Officer

Duties:

1) Evaluate all applications for admission received from the Graduate School, and prepare for faculty inspection and vote those that meet minimum standards. The director of graduate studies will sign for the department for all graduate admission matters.

2) Recommend to the faculty the strongest applicants that are entitled to departmental assistance (i.e., GTA, traineeships & fellowships).

3) Solicit from GTA's prior to each semester what course(s) they would prefer to T.A.

4) Solicit faculty choices for assistants in courses prior to each semester.

5) Based on enrollments, available positions, and items 3 and 4, recommend to the department chairperson the assignments of GTA's each semester.

6) Assign graduate student space in designated graduate student rooms in Starcher Hall.

7) Act as a temporary adviser to graduate students should the need arise.

Assistance: The director of graduate studies, with the concurrence of the chair, may select a faculty member who is willing to assist with his/her duties.

Minutes: 12 September 1978; 1 November 1982; 13 December 1984

5. Curators

All museum and herbarium materials are assigned to specific curators and the use of museum materials shall be obtained through the specific curator.

A major revision of curators was proposed in November 1969 but the plan was never approved. The current arrangement dates from 12 September 1978.

Aquatic Invertebrates	Insects
1 Faculty	2 Faculty

Fishes	Parasites
1 Faculty	2 Faculty
Herbarium	Vertebrates
1 Faculty	2 Faculty

Minutes: 6 October 1965; 12 September 1978

6. Directors

Directors of departmental field stations supervise the operations of the individual facilities. Problems and policy changes which are of substance must come before the faculty for advice and consent, usually by way of the Field Station Committee. Directors are appointed by the department chair, normally for a 2-year term. A director of field stations has also been authorized, but no appointment has ever been made.

Forest River Biology Area	Oakville Prairie
1 Faculty	1 Faculty

Minutes: 12 September 1978; 12 November 1980

Note: On June 21, 2007 oversight of the filed stations was transferred to the University Field Stations Committee as part of the Biology Field Station Operation and Management Policy (Appendix I).

7. Advisors

All full-time Biology faculty members except research and adjunct will be expected to participate in advising undergraduate students. The advisees will be assigned by the department chairperson on an equitable basis, and a central list of advisor assignments will be maintained in the Biology office. Advisees will remain with their same advisors until they have completed their undergraduate studies. However, a change of advisor may be necessary due to extenuating circumstances, e.g., change of major, advisor going on leave, personal conflict. The request for such a change may be submitted to the department chairperson by the faculty advisor and/or the student advise.

Minutes: 31 January 1983; 17 September 1984

8. Other Faculty Responsibility

Faculty representative to the Advisory Committee for the University of Minnesota Forestry and Biological Station.

1 Faculty

Minutes: 27 September 1972

9. Staff

Support staff personnel authorized by the University administration include the following appropriated positions (position, date first authorized, position classification, and main responsibilities):

Administrative Assistant - 1961; Administrative Secretary III; serves as secretary to the chairperson, serves as budget officer, maintains departmental records, prepares administrative reports for the chairperson, supervises office staff, takes minutes of faculty meetings.

Administrative Secretary - 1968; Word Processing Operator II, upgraded to Secretary II in 1998; serves as typist for correspondence, tests, reports, etc., serves as receptionist, transcribes material, etc.

Greenhouse Technician - 1982; Laboratory Technician IV. Maintains the plants in the greenhouses, orders materials and supplies for use in greenhouses, supervises student assistants working in greenhouses, and maintains the field stations.

Stockroom Manager - 1962; Biologist II; maintains stockroom, supervises student assistants working in the stockroom, prepares solutions for course and research use, processes purchase orders, maintains inventories, and repairs equipment.

Research Technician - 1986; Laboratory Technician IV; Research Technician for Biology Chairperson, perform departmental duties as determined by the chairperson.

C. Faculty Meetings

1. Content of Minutes

Only announcements, committee reports, motions and actions of the faculty are to be recorded in the minutes.

Minutes: 22 November 1974

2. Policy Actions

All actions involving a change in departmental policy or the establishment of a new policy will require presentation at one faculty meeting and action at the next faculty meeting.

When a new policy is introduced at a faculty meeting, the old policy should be retrieved and circulated by the committee or individual introducing the new policy, or the fact that none exists be ascertained.

Within one week of approval, policy changes are to be inserted into the Biology Faculty Handbook by the Administrative Assistant. An updated edition will be available after that on the Departmental website.

Minutes: 15 December 1969; 18 November 1977.

3. Submission of Agenda Items

a. A call for items for the agenda for a staff meeting shall be issued 72 hours in advance of the meeting. The agenda will be distributed at least 24 hours prior to the meeting.

b. Items requiring action shall follow in the order received, be listed by a brief descriptive phrase or statement of the policy, indicate the type of desired action (i.e. motion or discussion) and be in acceptable form.

c. Items not submitted in time for inclusion on the agenda may be considered at the meeting only with the unanimous consent of the faculty.

Minutes: 15 December 1967; 18 September 1968; 7 May 1984

D. External Evaluation

The department shall seek outside evaluations from three outside evaluators of institutions of comparable missions.

Minutes: 6 November 1981

II. RESPONSIBILITIES AND PRIVILEGES

A. Responsibilities

1. Chairperson

The chairperson is the administrative officer of the department. As such, he or she is a manager, an advocate, a planner and an evaluator.

As manager, the chairperson has the following responsibilities:

1) conduct faculty meetings
2) determine teaching loads
3) assign faculty responsibilities
4) appoint committee members (except Executive Committee) and coordinators, curators and officers
5) inform the faculty of university regulations and plans
6) supervise clerical and technical staff members
7) approve personnel appointments
8) administer the departmental budget
9) allocate funds for student awards

> The Chair will, at the beginning of the fall semester of each year, communicate to APSAC in writing the amount of money he/she can allocate to student research awards for that academic year.
>
> Minutes: 30 November 1992

10) allocate departmental resources and space
11) prepare schedules of courses
12) prepare the annual report

> An annual report detailing the activity of the department for each fiscal year shall be prepared by the chairperson. Each faculty member shall provide the chairperson by 30 June each year the information needed for the report. Only material related to one's expertise as a departmental faculty member is to be submitted. The content shall be specified by the chairperson who shall have the privilege of deleting submitted information considered irrelevant. The chairperson shall complete the report and distribute it to the faculty and selected members of the University administration by 15 September of each year.
>
> Each committee chairperson, coordinator, officer and curator has the responsibility of providing the department chairperson with a report of the activities of their function once each year. Such reports are due by 30 June. The department

chairperson will abstract each report for inclusion in the departmental annual report. Each report will be filed in the file for the particular function.

Minutes: 2 March 1984; 3 December 1986

13) maintain departmental records

The chairperson is to prepare an updated list of regulations of the department and distribute these to graduate students. The first guide was prepared and distributed in September 1967.

Departmental policies should be updated and clarified each year under the supervision of the department chairperson and circulated to faculty and graduate students.

Minutes: 7 July 1967; 9 September 1967; 18 November 1977

14) authorize issuance of keys to departmental facilities
15) monitor building security and maintenance
16) respond to departmental correspondence

The following responsibilities relate to the chairperson's role as advocate:

1) encourage faculty and staff members in the performance of their functions
2) communicate departmental needs to the University administration

The department chairperson is the individual responsible for communication of departmental affairs with the University administration. Unless authority is specifically delegated to a committee or individual faculty member, all official contacts regarding departmental affairs will be made only by the chairperson.

Minutes: 2 March 1984

3) enhance the department's image and reputation
4) serve as liaison with external agencies and institutions
5) seek outside funding on behalf of the department
6) represent the department at various meetings
7) promote the department with alumni

The planning function of the chairperson includes the following:

1) develop and implement long range plans and policies
2) propose departmental budgets to the faculty

The chairperson carries out these activities as evaluator:

1) evaluate faculty and staff performance
2) recommend promotions and tenure
3) recommend salary adjustments based on consultation with the Executive Committee and established departmental procedures for merit pay evaluation
4) serve as the reviewer and arbitrator of student or staff appeals
5) recommend appointments to the faculty and staff

In carrying out these functions, the chairperson shall seek the advice of various committees, coordinators, curators or officers, where such input is appropriate to their functions.

The chairperson is a non-voting ex-officio member of all departmental committees, except as may be specifically excluded by faculty action.

Minutes: 7 July 1967; 19 December 1969; 1 October 1971; 1 October 1971; 2 March 1984

2. Faculty Members

All faculty, as defined in Section I ("Organization and Administrative") of the Biology Department Handbook are eligible to vote on all departmental policy and procedural matters and in elections for chairperson and Executive Committee. Non tenure-track faculty may not vote on tenure and promotion.

a. Definition of 'faculty'

The faculty consists of all 'regular faculty' engaged in teaching, research and service functions of the department, exclusive of the teaching/research assistants, research professors, postdoctoral associates, research associates, adjunct professors, emeritus professors and lecturers.

Minutes: 25 March 1982; 16 December 1982; 20 February 1987; 28 February 1997; 8 Feb 2006

3. Adjunct and Research Faculty Members

a. Adjunct Faculty Members

Adjunct faculty appointments are made to expand the breadth of expertise of the current faculty. Such appointments should be encouraged in order to enhance the teaching and research function of the department via interaction of the adjunct faculty members with other faculty and students.

In addition to the facilities and services provided by the University, the adjunct faculty member will also have the use of common departmental facilities such as the museums, herbarium and data analysis room. Secretarial services will not be provided. All provisions for space, telephone and duplication services may only be provided out of the allocation to the nominator or other willing faculty members.

Adjunct faculty may not teach regularly scheduled undergraduate or graduate level courses. Exceptions to this may be made under highly extenuating circumstances, with the approval of a 2/3 majority of the full time faculty.

Minutes: 20 November 1968, 17 November 1976;
28 January 1977

b. Research faculty status confers eligibility to:
   1) be nominated to chair and to serve on graduate student advisory committees
   2) seek external funding for self-sufficiency of research and related expenses
   3) availability of additional departmental resources, will be negotiated with the department chair
   4) seek departmental and institutional funds for research and instructional needs
   5) serve on department committees except the executive committee
   6) the benefits of indirect cost funds, similar to the full-time faculty

c. Research faculty responsibilities:
   1) expected to maintain an active research program
   2) must offer a seminar or a formal course without monetary compensation at least once every two years
   3) expected to serve on departmental and graduate student committees when nominated
   4) expected to spend a significant amount of time each year on the UND campus

Minutes: 22 November 1982; 12 February 1987; 28 February 1997

4. Emeritus Faculty Members

Emeritus status confers eligibility to:

1) advise graduate students who have not completed degree requirements
2) be nominated to serve on graduate committees
3) teach a formal or informal course with the approval of the department chairperson
4) serve as curator or facility coordinator on recommendation of the department chairperson
5) departmental office supplies and services upon negotiation with the department chairperson
6) seek departmental and institutional funds for research and scholastic needs
7) office and research space needs subject to negotiation with the department chairperson
8. the benefits of the indirect cost funds, similar to the full-time faculty

5. Teaching Assistants

There is no specific departmental policy on the responsibilities of teaching assistants.

6. Staff Members

a. Secretaries

There is no specific departmental policy on the responsibilities of the secretarial staff.

b. Stockroom manager

Although the preparation of a list of the duties of the stockroom manager was authorized, no list was ever prepared for faculty approval.

Minutes: 27 May 1968

c. Greenhouse Manager

There is no specific departmental policy on the responsibilities of the greenhouse manager.

d. Research Technician

There is no specific departmental policy on the responsibilities of the laboratory technician.

7. Research Associates

Post-doctoral Research Associates are responsible to the Principal Investigator (P.I.) for the satisfactory performance of their duties and meeting of their responsibilities. They serve at the pleasure of the P.I. All facilities, space, supplies and equipment are to be provided by the P.I. Post-doctoral associates are not eligible for copying or telephone allocations.

Minutes: 1 March 1985

B. Appointments

1. Chairperson

Any full-time member of the departmental faculty shall be considered eligible for the chair.

The incumbent chairperson shall be eligible for nomination and election on an equal basis with other faculty members.

Normally, the election for chairperson will occur in the month prior to the Executive Committee election. Full time faculty members will be queried via a written memo as to their willingness, or non-willingness, to serve as chairperson. The list of people indicating their willingness to serve as chair will be provided to the faculty. In light of the results of the initial query, all full time faculty members will then be given a second and final chance to indicate their willingness, or non-willingness, to serve as chair.

The list of all faculty members indicating their willingness to serve as chair will constitute the initial ballot for the election. Each faculty member shall vote for one person on the ballot.

All faculty as defined in Section I ("Organization and Administration") of the Biology Department Handbook, are eligible to vote in elections for chairperson.

The top three nominees' names will constitute a "run-off ballot" from the department office, with the lowest vote-getter being dropped from further consideration.

The two remaining nominees will constitute the "final ballot", as distributed by the department office.

The chairperson will be elected by a simple majority of those persons eligible to vote.

Balloting at each level shall continue for at least three and no more than seven days, the latter in case individuals are off-campus at the time.

Following the selection, the chairperson shall communicate the results to the departmental faculty and the Dean of the College of Arts and Sciences.

If the Dean (or higher administrator) rejects the elected individual, he or she shall be asked to communicate his or her reasons in writing and asked to explain them at a meeting of the faculty.

The term of office of the chairperson shall be three years.
Each term will commence on 1 July.

Minutes: March 1974; 18 March 1980; 8 May 1980; 25 March 1982; 16 December 1982; 2 March 1984; 8 Feb 2006

2. Associate Chairperson

The chairperson will have the option to appoint an associate chairperson. The term of appointment will be from one to three years and will not extend beyond the term of the incumbent chair. The administrative duties of the associate chair will be established by the chair in consultation with the associate chair. The ratio of effort in teaching, research and service for the associate chair may be altered via current departmental policy.

Minutes: 10 April 1992

3. Faculty Members

All new faculty appointments, both tenure-track and temporary, at the rank of instructor or higher will be made by the departmental chair upon the recommendation of the faculty. Appointments at the rank of lecturer will be made by the department chair, normally in consultation with the Executive Committee.

An appointment to a faculty position of assistant professor or higher carries with it the expectation that the individual will devote approximately 45% of the individual's effort to teaching, 45% to research and 10% to service. However, the department reserves the right to alter the 45% teaching, 45% research and 10% service expectation for any faculty member based on the departmental chair's recommendation in consultation with the executive committee**,** and with the consensus of the faculty.

Minutes: 21 April 1999

Appointment of lecturers is based upon an expectation of 100% teaching. In such instances the normal full-time teaching load will consist of six formal course preparations during the academic year.

a. Allocation of Effort

All Biology Department faculty members are expected to make productive contributions in teaching, research, and service. The percentage of total effort devoted to teaching, research, and service will be negotiated between each faculty member and the chairperson with the advice of the Executive Committee. The negotiated ratio is subject to the following limitations:

Tenured faculty -

Teaching	Research	Service
60	30	10
45	45	10
30	60	10

Alterations in the ratio will normally be negotiable following the triennial evaluation of tenured faculty or during the final tenure evaluation for untenured faculty. Approval of alterations by the chair will be contingent upon meeting the total instructional needs of the department. Additional loads assumed by faculty to cover leaves of absence or position vacancies will be formally noted in the Evaluation Section of the personnel file.

The percentage allocation for the chairperson and non-tenure track appointments will be established without the restrictions specified above, and will be subject to departmental approval.

The following categories will be recognized in determination of allocation of effort:

Teaching -

1) Formal course teaching, with an annual standard expectation of 3 weighted course preparations for 45% effort for tenured faculty and, in light of the demands of establishing a new teaching and research program, 2 course preparations for untenured faculty.

2) In addition to formal course teaching, development of a graduate program, including regular advisement of graduate students and participation on graduate committees is expected.
3) Effort related to acquisition of funding for the benefit of the teaching mission, development of new curricular materials, and participation in teaching-related national programs will also be considered.

Research -

1) Development and maintenance of an active research program, including regular production of peer-reviewed publications.
2) Acquisition of funding (normally grants and contracts) adequate to provide support for the research program.
3) Presentation of research results at scientific meetings.

Service -

1) Departmental service, including undergraduate advisement, participation on administrative committees, coordination of facilities, etc.
2) Campus service, including governance, administrative and academic committees, advisement of student organizations, participation in campus professional organizations (e.g. AAUP, Sigma Xi)
3) Professional service, including manuscript and grant reviews, offices and committee service to professional organizations, consulting activity, speaking to outside groups, etc.
4) Dissemination of research results and other scholarly activity to the general public through popular publication and speaking engagements.

The departmental policy statement on faculty recruitment was adopted on 4 February 1977; 7 February 1992; 8 April 2005.

b. Buying Out of Teaching Duties

The teaching buyout request in a grant will be honored only if an instructor acceptable to the Department Chair is secured no less than two weeks before the beginning of instruction in the buyout semester. A good faith effort by the Department will be made to secure an instructor in order that the PI will be freed to administer this grant as soon as possible. [Adopted 14 April 2003]

c. The Biology Department Philosophy

The devotion of this department, and its faculty, should equal that of this university in its dedication to scholarship. To the degree that we are true scholar-teachers, we can successfully carry out the duties and fulfill the responsibilities incumbent upon us. We should strive to improve our scholarly program, to increase our effectiveness and to aid each other in these endeavors. This is particularly true with regard to our search for new knowledge and its dissemination.

Research is often difficult, tedious, and immensely consuming of time and energy. Yet it is the essential underpinning of our science and its teaching. It is not enough to discover new facts or relationships; only when the results of research are published does the task reach fulfillment. Unpublished results merely demonstrate incomplete scholarship. The genuine scholar is the productive, publishing scholar. Such a scholar brings to the classroom the enthusiasm, the mental rigor, and the awareness of contemporary advances in his or her field that accompanies genuine scholarship.

Our goal, whenever we recruit for a faculty position in our department, should be to seek out the very best scholar, in the particular area of interest, whom we can persuade to join us here at the University of North Dakota.

d. Desired Characteristics of a New Faculty member

A biology professor is, and should be, first of all an active, productive scientist. We shall seek biologists who display a deep and abiding commitment to research and to an active life of productive scholarship. The new, young faculty member must be self-starting and self-sustaining to a very large extent, since the incentives and demands of graduate school are left behind.

The more maturity and experience that a potential new faculty member possesses, the more adequately we may judge that person's qualifications, interests and potential. Therefore, whenever possible, candidates should have post-doctoral training and experience prior to our consideration of them.

Some teaching experience on the part of the candidate is desirable and it is to be expected, at least at the graduate level. This will be of value not only because it is helpful for our assessment of the candidate's skills and of benefit for future teaching duties, but it allows the candidate to evaluate his or her own interest in teaching and to communicate that degree of interest to us.

A reasonable degree of compatibility with other people is to be expected of any future new faculty member (or for any faculty member for that matter). A sense of congeniality and interest in young people is particularly to be hoped for.

e. What the Department will Expect of the New Faculty Member

From the time of the initial advertisement of the faculty position, an open and complete statement will be made with regard to what is expected of the new faculty member. This will include a statement of area of expertise that is desired, the teaching responsibilities, the desirability of post-doctoral training and the necessity for a strong commitment to research.

The department will expect a new faculty member to carry a reasonable teaching and service load in the department. The new faculty member should be willing to contribute to the team teaching of introductory biology, to participate in one or two undergraduate courses in his

or her area of general interest and to develop a graduate offering (initially as directed studies) in his or her area of specialization.

The new faculty member will be expected to seek outside support through the preparation of research grant proposals to the National Science Foundation, National Institutes of Health, and other appropriate federal agencies. Each candidate will be expected to provide an outline of his or her general research goals and long-range research plans.

With regard to departmental committee work and other departmental responsibilities, the faculty member will be expected to participate in these activities to the same degree as other members of the faculty. Whenever possible, advising of undergraduate students will not be assigned to new faculty members during their initial year of service.

Concomitant with the development of an active research program, a new faculty member can be expected to advise graduate student research and study. The pace and degree to which this expectation will be fulfilled will, of course, depend on the particular area of specialization and the makeup of the graduate student population, as well as other factors. Each faculty member shall be productive of high quality scholarly work sufficient to gain full membership in the Graduate Faculty and shall thereafter maintain such productivity.

f. <u>What the New Faculty Member Can Expect of the Department</u>

The new faculty member can expect treatment that is both fair and equal to that of the other faculty of the department. The new faculty member can expect the opportunity to:

1) carry a teaching load commensurate with that carried by the other faculty members and thereby participate in a meaningful and significant fashion in the teaching program in the department.

2) participate in the committee structure and function of the department to a degree commensurate with the other faculty, but can expect not to be placed in positions of responsibility and focus with regard to highly controversial or emotional issues.

3) have equal access to graduate students, and equal opportunity to secure departmental space, equipment, supplies and support for research, as that enjoyed by the other faculty.

4) acquire a copy of departmental statements including faculty policy, regulations and general information for graduate students, and the previous year's departmental faculty meeting minutes.

5) meet with the chairperson and discuss any problems or concerns with regard to the new faculty member's performance, role and treatment in the department. The faculty member can expect a sympathetic and interested response on such occasions.

6) receive in writing those statements of notification of evaluation and guidelines for evaluation as well as the results of the evaluation process.

7) receive steady support and encouragement by the department toward the development of the new faculty member as a productive scholar and a biologist with a strong sense of professionalism.

g. General Considerations

There are many causes for concern among the University faculty with regard to the quality of our academic program. Mindful of our primary responsibility to our students and to the maintenance and advancement of quality in our program and to the strengthening of our scholarly endeavors that sustain and nurture that program, we cannot but be distressed by the inflation in grade point averages, the deterioration in library resources and services, and the erosion in support, both financial and moral, for our research efforts by the federal government and other agencies. Many other problems also beset us, including an ever-increasing load of paperwork accompanied by a continual narrowing of procedural interpretations of administrative policies.

Despite all of these difficulties there should be no area of greater concern and of careful, considered effort than in the recruitment of a new member of our departmental faculty. Nothing is more crucial to the success of our program and the future fulfillment of its responsibilities than the acquisition and retention of a sound, productive scholar who is also a successful and popular teacher. The task is possible, but it is difficult.

The recruitment of a faculty member who is not successful here and who is not awarded tenure is a signal of failure on our part as much as that of the faculty member. A person should not join our faculty if they do not intend to meet our standards. Yet we should not offer a position to an individual unless, in our considered judgment, that person has both the desire and potential to fulfill our expectations.

Academia is now a buyer's market. There is an abundance of well-trained, dedicated young men and women scientists that are anxious to pursue a career in a university faculty of biology. Nevertheless, even the best of them will fail if they join a department where they are mistreated, neglected, and overworked, while their potential is wasted. Our department, as all others in the University, has a serious obligation to provide the support, encouragement, and wherewithal needed for the successful entry and advancement of a new faculty member, particularly a young one, into our department.

In a recent editorial (concerning the university tenure problem) in the journal SCIENCE (October 8, 1976, p. 137), Harrison Shull wrote that "Finally, we must continue high utilization of innovative young faculty members in the combined research-graduate education role. The creation of this opportunity for the young is, I believe, the outstanding educational accomplishment of the United States in this era. When a steady-state age distribution is reached there will be fewer young people on our faculties. We

must strive to protect their interests, conserve their time, and discourage diversionary assignments. More of the routine teaching should be shouldered by older faculty members, preferably voluntarily, but if not, by assignment.

h. Departmental Responsibilities to New Faculty

The department has the serious responsibility of creating an environment in which the new faculty member can realize his or her potential as a productive scholar and effective teacher. Several important elements should be considered.

1) Attitude

The new faculty member should be welcomed into the department as a valued colleague. New faculty members should be greeted as partners and possible collaborators rather than as competitors for resources and students. Care should be taken, however, to encourage intellectual independence and the more senior faculty should take care not to become involved in collaborative work in such a way as to obscure the capacity of a new faculty member to carry on independent research. The department should be supportive of the new faculty at the time of their moving to this campus, and should, where feasible, offer assistance by providing information on university housing and the community. If difficulties arise with regard to a new faculty member's behavior, an air of tolerance should prevail, and if some discussion of the matter is required the chairperson should carry out such a discussion in private with a tone of helpfulness and concern.

2) Teaching

The department should take care to utilize the skills and training of the new faculty for the maximum benefit of the students and for the welfare of the new faculty member. During the period prior to awarding of tenure a new faculty member shall be expected to teach two courses during the academic year. Additional teaching such as directed studies, seminars, and honors courses shall be encouraged, but care should be taken that such additional involvement not become excessive. The chairperson shall be responsible for advising the new faculty member with regard to an excessive teaching load.

Minutes**:** 8 April 2003

The department should examine its policies with regard to teaching loads and distributions, and efforts should be made to increase the efficiency of teaching efforts. Team teaching should be encouraged where effectiveness and efficiency are augmented but are to be avoided where they do otherwise.

The new faculty members should be encouraged to teach an undergraduate "core type" course one semester and present a graduate level offering the alternating semester. In this way the new faculty members will have the opportunity to share in the

undergraduate teaching load and make a major contribution in that area, to develop their teaching skills at that level, and to develop a graduate area and make known to the graduate students their areas of research interest.

Minutes: 8 April 2003

3) Graduate students

The department is responsible for providing the new faculty member with access to the graduate students of the department, both present and future.

Minutes: 2 May 2008

4) Space

The department, having established high standards of scholarly productivity, is responsible for providing the optimum environment for such productivity. Sufficient space for an office laboratory, commensurate with the needs of a new faculty member, is a fundamental and indispensable requirement. A new faculty member should not be offered a position if our department cannot or will not meet this responsibility. The department chairperson, supported by the departmental faculty, should make a carefully-stated and vigorous request to the administration for funds to refurbish and equip (see below) the facilities for a new faculty member. This matter is especially crucial for those new faculty whose investigations are carried out primarily in the laboratory rather than the field.

Final decisions regarding all space allocations for teaching and research will be made by the chairperson of the department in consultation with the executive committee. All full-time tenure track faculty will be assigned an office and laboratory. Non-tenure track faculty will be assigned office and laboratory space by the chairperson based on availability. Allocation of additional research space to full time tenure track faculty beyond the standard office and laboratory is not a permanent entitlement. It will be based on an ongoing assessment by the chairperson of the space needs in the department. Individuals needing an additional allocation of space will submit a written request and justification to the chairperson. The chairperson will assign additional research space according to the following priorities, listed from highest to lowest priority:

1. Externally funded research by faculty that also enhances graduate and undergraduate training*
2. Externally funded research by faculty that does not involve graduate and undergraduate training
3. Non-funded research by faculty**
4. Duplication of facilities
5. Long-term storage of materials

*Use of facilities by multiple faculty for collaborative projects or shared equipment use will enhance the priority.
**A shift from externally funded to non-funded research occurs when additional external funds for continuing the research are not obtained, normally within a 2 year period.

Minutes: 22 March 2002

5) Equipment

Some new faculty will require major items of equipment in order to initiate and carry out their research program. The department should exercise foresight and plan on a request for funds for equipment purchase for each new faculty member that has such needs. In most cases such needs can be expected. These monies should be planned for and committed prior to the onset of recruiting so that their availability can be counted on and be made known to the prospective new faculty member. The department shall be responsible for soliciting a list, in priority order, of equipment needs from the prospective faculty member, as the recruitment process proceeds.

Minutes: 4 February 1977, 27 October 1986; 24 April 1989

4. Adjunct and Research Faculty Members

a. Adjunct Faculty

Individuals appointed to adjunct status shall meet the same qualifications in degrees and professional experience as other members of the departmental faculty.

Individuals to be considered for adjunct appointment shall have the capability of providing significant input to the department's program.

Nomination for appointment to adjunct status may be made by any member of the departmental faculty. The nomination shall consist of a complete resume' of the individual's education and vocational experience, a complete list of publications, and a statement of the contribution that the individual will make as a member of the departmental faculty.

The individual's credentials shall be available to the departmental faculty for a minimum of one week prior to the faculty meeting at which action on the nomination will be taken.

The departmental faculty shall discuss the nominee's qualifications at a faculty meeting and shall vote on each nominee. A majority of the faculty must vote in favor of the nominee for election.

The departmental chairperson shall then forward the appropriate appointment documents to the Dean of the College of Arts and Sciences for approval. Appointments to adjunct

status shall be for a term of two years. Appointments shall be made at an academic level appropriate for the nominee's experience.

Minutes: 17 November 1976; 28 January 1977; 22 November 1982; 1 March 1985

b. Research Faculty

Under the circumstances where there is clear documentation of potential departmental benefit, the faculty may consider appointment of research faculty. The candidate may be considered following nomination by two tenure-track faculty. The individual must have demonstrated ability to make substantive contributions to the research and scholarly needs of the department. In addition, the scientific qualifications of the individual must be comparable to those tenure-track faculty who have been hired recently. In forwarding the nomination to the faculty, the Chairperson shall include an assessment of potential benefit and logistic impact to the Department.

Appointments shall be for three years duration.

Minutes: 22 November 1982; 12 February 1987

5. Emeritus Faculty

Emeritus status is conferred by the State Board of Higher Education upon recommendation of the department faculty and concurrence of the administration. Only tenure-track retired faculty are eligible for the emeritus status.

Nomination for the emeritus status shall be initiated by the chairperson through a formal request to a meeting of the department faculty. The request can be presented during the first semester following the retirement of the individual. If approved by a majority of the faculty, the nomination shall be forwarded to the dean by the chairperson.

Minutes: 12 February 1987

6. Teaching Assistants

Teaching assistantships will be awarded to students whose research interests coincide with those of the faculty.

Assistantships are awarded for up to 6 semesters (3 academic years) to a graduate student working towards a Master's degree and for up to eight semesters (4 academic years) to a graduate student working towards a Doctor's degree. Only in rare and exceptional cases would any extensions be made.

The following timetable for GTA decisions is recommended:

Evaluation and reassignment of current GTAs: 1-15 February
Deadline for new students to be certain to be considered for financial assistance: 15 February

A 15 February deadline will allow decisions regarding new GTAs to be made by 10 March. This does not mean that we will delay all recommendations to 10 March, nor does it necessarily mean we will recommend allocation of all GTAs by 10 March. It does mean, however, that we will be capable of making all decisions no later than 10 March.

Continuing graduate students must decline or sign and return the contract for a GTA position for the next academic year or semester by 15 April. If the contract is issued after 1 April, the graduate student must decline or sign and return the contract for a GTA appointment within two weeks of receipt of such contract.

Minutes: 2 October 1964; 14 October 1976; 24 March 1993

7. Staff Members

Appointment of staff members is considered a responsibility of the chairperson.

Minutes: 2 March 1984

8. Resignations

The department has no policy on resignations.

See section V.F.3 for requests for resignation of Graduate Teaching Assistants.

9. Election to the Graduate Faculty

Each member of the Biology Faculty is expected to become a full member of the Graduate Faculty and to maintain that membership by continued scholarly activity.

During the first week of each semester each member of the faculty not a Full member of the Graduate Faculty shall provide the department chairperson with an updated curriculum vitae including a comprehensive report of scholarly activities and productivity.

The department chairperson shall evaluate the credentials of the faculty member being considered, including the relevant departmental files and determine if a recommendation for Graduate Faculty membership or status should go forward.

In the case of a positive decision for nomination by the department chairperson, the chairperson shall forward the nomination with supporting documents to the Arts and Sciences Dean.

Minutes: 8 October 1976; February 21, 2007.

III. PROCEDURES AND GUIDELINES FOR EVALUATION

A. Chairperson

1. Assumptions.

The major administrative officer of the department is the chairperson. According to departmental policy, the chairperson is elected by all tenure track faculty in the department. As the main administrative officer, the chair is a manager, advocate, planner and evaluator for the department. Because of the significant oversight responsibilities, the chair should be tenured and, preferably, a Full Professor.

2. Evaluation of Administrative Performance.

Since the chair is a combination faculty member and administrator, the chair is evaluated for both areas of responsibility. The chair is evaluated on teaching, research and service by the Departmental Executive Committee in the same manner as any other faculty member. In addition, the chair is evaluated for his or her performance as the major administrative officer of the department. The department chair should be evaluated on their administrative performance by the Biology Department faculty and staff, and the Dean of Arts and Sciences. Specifically, the chair of the Executive Committee annually distributes a chair evaluation form to all faculty (Appendix IIA) and staff (Appendix IIB) at the start of the academic year to review the previous years performance. Faculty and staff rate the chair's performance for the previous year on a scale from 1 to 5, with 5 being significantly exceeds expectations and 1 being falls significantly short of expectations. Five key areas of chair responsibility are evaluated: administrative-faculty/staff relations, information and feedback, leadership and organization, decision-making and effectiveness, and trust. The overall performance of the individual is also rated on a similar scale. The format is open, with space for comments in all areas. The Dean of Arts and Sciences also provides a brief, yearly evaluation of the chair, including an assessment of the chair's goals and accomplishments, along with a judgment regarding the chair's overall performance.

Based on input from the faculty, staff and the Dean of Arts and Sciences, the Executive Committee summarizes the chair's performance and places the chair's administrative performance into one of five categories:

SIGNIFICANTLY EXCEEDS EXPECTATIONS
EXCEEDS EXPECTATIONS
MEETS EXPECTATIONS
FALLS SHORT OF EXPECTATIONS
FALLS SIGNIFICANTLY SHORT OF EXPECTATIONS

The summary document produced by the Executive Committee related to the Chairs administrative performance, along with the evaluation by the Dean of Arts and Sciences, will be made available for review by the faculty and staff.

A chair meeting expectations would be reflected by one who establishes effective administrative-faculty relations, provides useful and timely information and feedback, demonstrates leadership and organization that helps the department run efficiently while moving the department forward, makes informed, timely and logical decisions, and establishes a collegial and trusting environment that facilitates the open exchange of ideas. In addition to these attributes, a chair exceeding expectations would provide leadership in creating a clear and dynamic vision for the future direction of the department, be effective at communicating this vision to the upper administration, be successful at acquiring resources to achieve that vision, and, most importantly, effectively implement that vision. A chair exceeding expectations would also receive campus-wide recognition for their leadership and, as part of this recognition, be routinely asked to serve in leadership positions on campus-wide committees. A chair that significantly exceeds expectations would also be successful in achieving regional and national recognition for the department and its programs.

Minutes 15 February, 2008

B. Procedures and Guidelines for Tenure Track Faculty Members

1. Introduction

The Department of Biology assumes that tenure and promotion decisions are criterion-referenced decisions. Accordingly, there is a need to specify general expectations that should guide these decisions. These can be described as falling between minimal requirements, on the one hand, and exceptional achievement, on the other. This document outlines these general expectations and the basic procedures for conducting evaluations and making such decisions.

This section also represents a communication from the department to the higher administration regarding the department's expectations for all faculty evaluations, including those for tenure, reappointment, and promotion. These guidelines have been developed taking into account what the department perceives as the general expectations the university has of its faculty. Thus, inasmuch as these guidelines are consistent with the university's expectations, the department also expects these guidelines will be referenced by administrators and appropriate college or university committees (e.g., TRP) who are placed in the position of making recommendations about the tenure, reappointment, and/or promotion of the members of the Biology Department.

Since the university now requires annual evaluations of every faculty member, the department has attempted to outline the annual and tri-annual expectations for faculty performance, as well as the expectations for promotion to associate or full professor.

We acknowledge from the outset that evaluation is a subjective process and is difficult to explicitly quantify. Evaluation of faculty performance is best understood as an exercise in professional judgment. Nevertheless, the evaluation process should be based on some general expectations and it should be possible to outline some minimum requirements, as well as exceptional achievements, that can serve as a guide for the faculty member being evaluated and for those conducting the evaluation. Furthermore, the

evaluation should be based on the total contributions of the individual, rather than focusing excessively on relatively few contributions. Faculty members meeting minimum standards for promotion or tenure will be considered; those not meeting them will not be considered (unless consideration is required by university policy or requested by the individual faculty member). The requirements described here are seen as "necessary but not sufficient" for promotion or tenure. The strongest case is made when the candidate has demonstrated exceptional achievements in one or more of the areas of teaching, research, and service. In all three areas, evaluation and personnel decisions must take into account quantity and quality tradeoffs, as well as differential faculty effort and expectations across areas of research, teaching and service.

2. Faculty Tracks

A tenure track faculty member in the Biology Department is expected to fall into one of two tracks, either Basic Scientist Scholar or Educator Scholar, which is normally determined at the time of appointment to the Department of Biology. Faculty tracks may, however, be renegotiated at a later career stage. As most new faculty in the Biology Department are usually expected to be hired into the Basic Scientist Scholar track, Educator Scholars are likely to result from such a negotiated change. Any changes in track are contingent on approval by the Biology Department faculty. The two tracks include:

Basic Scientist Scholar – The Basic Scientist Scholar designation is for faculty members with demonstrated excellence in the discovery of new knowledge through empirical research and the dissemination of this knowledge in peer-reviewed outlets. They are also effective teachers and actively involved in academic service. They would normally be dedicating 45-60% of their effort towards research.

Educator Scholar – The Educator Scholar designation is for faculty members with demonstrated excellence in teaching, educational leadership, curriculum development, and assessment. Faculty in this track will primarily be engaged in research and scholarly activities related to education, including publication in peer-reviewed outlets, and are actively involved in service. They would ***normally be dedicating 60%*** of their effort toward teaching.

The primary purpose for identifying these two tracks is to formally reinforce the Department of Biology's view that both teaching and basic research are important to our mission but to recognize that individuals may vary as to the relative role teaching and scholarly activity will play in the evaluation processes for promotion and tenure. It should be pointed out, however, that in both tracks, scholarship is still required but the relative effort expected and the emphasis on basic research vs. pedagogical research and/or curriculum development will vary.

3. Faculty Rank Characteristics

Listed below are expected characteristics for appointment or promotion to that rank in the Department of Biology. The criteria are intended to be the usual criteria and are not intended to exclude qualified candidates who possess equivalent training.

Instructor

Earned Bachelor or Master's degree or equivalent training
Demonstrated promise as a teacher
Engaged in professional development

Assistant Professor

Earned doctorate (Ph.D.)
Faculty members with a Ph.D. will normally be expected to have completed a

Postdoctoral experience
Potential for effectiveness in research and scholarly/creative activity
Potential for effectiveness in teaching
Potential for effectiveness in departmental, university, professional and community service

Associate Professor

Earned doctorate
Consistent record of research and scholarly activity of appropriate quality and quantity for time in rank
Consistent and marked effectiveness in teaching
Consistent and substantial contributions and service to his/her department, university, profession and community

Professor

The rank of professor is awarded on the basis of recognition for continued solid and consistent performance in teaching, research, and service that normally involves recognition from peers both on and off campus and not simply on the basis of time in rank as an Associate Professor
The high level of performance and activity in the areas of teaching, research and service is expected to be maintained by an individual at the level of Professor throughout her/his career.

4. Hallmarks of Professional Accomplishment Associated with Promotion and Tenure

For evaluation purposes, the Biology Department recognizes hallmarks of professional accomplishments associated with meeting expectations, exceeding expectations, and significantly exceeding expectations in scholarly activity, teaching, and service (Table 1). These hallmarks are applicable to any faculty rank, although the likelihood of exceeding or significantly exceeding these expectations is likely to vary throughout one's career. The purpose of the list is to provide a sense of the importance of specific activities based on the previous experience of senior faculty in the department and, in general, the items listed within an area of faculty responsibility (e.g., scholarly activity, teaching and service) are listed from higher to lower relative importance. We should point out, however, that it tends to be easier for faculty to agree on what is at the top of these lists, rather than specific rankings of items lower on the lists. Furthermore, it is possible to be categorized in an area without achieving all of the hallmarks but, in the end, a preponderance of the evidence must support a given evaluation and placement. The relative expected contribution of individual faculty members in scholarly activity, teaching and service will be reflected in the annually submitted *Position Description Form* and the associated percentage of effort in the respective areas of faculty responsibility. For example, one might expect that a person devoting 60% of their faculty effort towards research, should publish more than one paper per year to meet expectations of performance. Finally, although the hallmarks for not meeting expectations are not listed in Table 1, it should be apparent that such an individual would not be achieving the hallmarks and the more hallmarks they fail to meet, the more they are likely to move from not meeting expectations to significantly not meeting expectations.

5. Documenting Professional Accomplishment for Promotion and Tenure

a. Scholarly Activity

Assumptions

Faculty members at UND are expected to contribute to the growth and dissemination of knowledge. Scholarly activity is an important part of continuing professional development. Scholarly productivity also serves as a model for our students and thus is an important instructional goal.

Table 1: Hallmarks of Accomplishment for Faculty in the Biology Department.

	Meets Expectations	Exceeds Expectations	Significantly Exceeds Expectations
Research and Scholarly Activity	Active research/scholarly program Publication rate of about 1 peer-reviewed article per year, with quality of the articles considered Extramural support for research/scholarly program and/or active seeking of extramural funds Presentations at regional/ national meetings Some recognition of research/scholarly activity by others in the field, including citations of published work Other discipline-specific research related contributions (e.g., submissions to public data bases, provision of research-related materials etc.)	Active, independent and productive research/scholarly program Publication rate of 2 - 3 peer-reviewed articles per year, with quality of the articles considered Significant extramural funding, including nationally competitive, peer-reviewed grants and active and ongoing pursuit of extramural funds Multiple presentations at national/international meetings, including invited presentations Clear recognition of the significance of research/scholarly activity by leaders in the field, including multiple citations of published work Other discipline-specific research related contributions (e.g., multiple submissions to public data bases, provision of research-related materials etc.)	Vigorous, independent and productive research/scholarly program Publication rate of more than 3 peer-reviewed articles per year, with quality of the articles considered. Sustained, significant extramural funding, including multiple nationally competitive grants Multiple presentations at national/international meetings, including multiple invited presentations Clear recognition of the significance of research/scholarly activity by leaders in the field, including professional awards and numerous and extensive citations of published work Other discipline-specific research related contributions (e.g., extensive submissions to public data bases, provision of research-related materials etc.)
Teaching	Effective contributions to the department's formal teaching mission, as reflected in the six key areas of teaching expectations (see p. 7) Evidence of good quality teaching through mechanisms other than student evaluations Successful mentoring of undergraduate and graduate students Good student evaluations	Significant, effective and innovative contributions to the department's formal teaching mission, as reflected in the six key areas of teaching expectations (see p. 7) and includes local recognition Evidence of excellent quality of teaching through various mechanisms other than student evaluations, including well defined direct assessment procedures Successful mentoring of multiple undergraduate and graduate students Successful obtaining extramural training grants Excellent student evaluations Involvement in curriculum development/implementation and design of program assessment	Significant, effective, and innovative contributions to the department's formal teaching mission, as reflected in the six key areas of teaching expectations (see p. 7), including regional or national teaching awards Evidence of excellent quality of teaching through various mechanisms other than student evaluations, including rigorous and well defined assessment procedures Vigorous and ongoing mentoring of multiple undergraduate and graduate students Administration of extramural, multi-investigator training grants Excellent student evaluations Demonstrated leadership in curriculum development/ implementation and design of program assessment
Service	Effective participation in the service missions of the department, college, university, and community Effective advisement of students Occasional involvement with manuscript and grant review Membership in professional organizations	Extensive involvement, including some leadership roles, in the service missions of the department, college, university, and community Effective advisement and counseling of students into career paths related to the profession Service on grant and/or program review panels and national/international journal editorial boards Review of multiple research grants and manuscripts for publication Active involvement in professional organizations Significant contributions to the professional development of others	Active and extensive leadership in the service missions of the department, college, university, and community Recognized by peers for effective advisement and successful placement of students into career paths related to the profession Service on national and international grant or program review panels and multiple national/international journal editorial boards Leadership in professional organizations Recognized by peers for the advancement of the professional development of others through mentoring

(2) Evaluation process

The process the department will employ to assess scholarly activity will be as follows:

Each faculty member to be evaluated is expected to provide citations for each publication, grant activity/extramural support, conference presentations, and student research training during the evaluation period on his/her Enhanced October Supplement (Appendix IC), which the department uses as the official source of information regarding research and scholarship. The faculty member should be able to produce, on request, p/reprints, abstracts of conference presentations, announcements for speeches, and copies of submitted grants.

Probationary period

During the probationary period, a faculty member must produce scholarly products that will convince colleagues that he/she has the skills and motivation to engage in independent scholarship. This expectation implies that the probationary faculty member will be able to conduct scholarship at UND and publish work resulting from this activity.

New faculty members may continue research started prior to their arrival at UND, but they are also expected to establish an independent research program based on work conducted at UND. Evidence of such a program will include publications in refereed journals based on data collected subsequently to arrival at UND.

New faculty members may continue research started prior to their arrival at UND, but they are also expected to establish an independent research program based on work conducted at UND. Evidence of such a program will include publications in refereed journals based on data collected subsequently to arrival at UND.

Note also that all mention of quantity of faculty contributions (e.g., number of peer-reviewed publications per year) is referring to typical contributions. It is possible for lesser quantity to meet or exceed expectations in the case of exceptional quality of work or for a greater quantity to not meet expectations in the case of a collectively lesser intellectual contribution.

(4) Characteristics of scholarship expected for tenure

To be tenured in the Biology Department, a faculty member must have successfully launched an independent program of research and publication of scholarly work is of highest priority. That is, there should be scholarship based on work directed by the faculty member while at UND. Accordingly, the faculty member should have exhibited a primary role in the publication of at least two of these written works. A stronger case would be seen in the faculty member with several first-author publications that are a combination of previous work and work directed while at UND.

With regard to quantity, the faculty member should have at least 1-2 papers published or in press while at UND by the time of their 3rd annual review. To be favorably considered for tenure, the faculty member should have on average at least 5 primary, peer-reviewed publications over the normal 5 yr pre-tenure probationary period or demonstrated substantial progress toward that goal. While the Biology Department has no strict formula for ranking the merit of research publications because of complex variation in quality and quantity of presented ideas and information, the Department considers the following factors in evaluating publication quality: 1) potential importance of the presented content and ideas, 2) level of peer review (international, national, regional, local, none), 3) magnitude of the author's contribution in the research and writing , and 4) the outlet journal's accessibility and influence.

Faculty will also be expected to actively seek extramural grant funding. To be considered for tenure, the faculty member must have submitted at least three extramural grant proposals, one of which must be a proposal on which the faculty member appears as the principal investigator. For annual review purposes, faculty will be expected to average one grant submission every two years. This expectation will be suspended if the faculty member has been successful in obtaining grant funding and is administering an active grant.

As with publications, the Department of Biology has no strict formula for ranking the quality of grant and contract awards because of the complexity of circumstances in which they are acquired. The Department considers the following factors in evaluating the quality of grant and contract awards: 1) degree of competition for the award, including the level of peer review and whether the award is a national, regional, or local award, 2) the awardee's role in acquisition of the award, and 3) overall impact of the award on the awardee's research program (relevance, duration, and magnitude). Awards acquired during the review period are ranked higher than similar continuing awards.

Active participation in professional meetings and presentation of research results is also expected, with the quality of the presentation being determined by whether it is an invited or contributed presentation and whether it is at an international, national or regional meeting.

Exceptional achievement would be seen in faculty members with several primary, referred publications in international journals each year, a high proportion of publications in high impact and peer-reviewed journals, a number of active, peer-reviewed, and nationally competitive grants, and multiple invited presentations at national and international professional meetings (Table 1).

(5) Characteristics of scholarship expected for promotion

Promotion to associate professor usually, but not always, occurs at the same time as the tenure decision. Thus, the criteria for this promotion are essentially the same as for tenure.

For promotion to full professor**,** the faculty member should provide evidence of an established and continuing research/creative activity program that has demonstrated evidence of either regional or, preferably, national recognition. There should be evidence of some focus and commitment to the study of specific issues important to the individual's programmatic area of interest. The record should show continued publication in high-quality, nationally or internationally refereed outlets that are clearly recognized as leading journals in the discipline, and evidence of continued efforts and success at obtaining external funding for their research/scholarly activity program. With regard to quantity, the faculty member should normally have averaged more than one significant refereed publication per year (published or in press) at the time of the evaluation for promotion to full professor.

Exceptional achievement associated with promotion to full professor would be seen in faculty members with several refereed publications each year in national and international outlets, a high proportion of publications in high impact journals addressing broad questions in the field of interest, several funded external grants, election to fellow status in national organizations, and/or appointment to a prestigious journal's editorial board. A higher allocation of faculty effort toward research (e.g., a change from 45% to 60% effort) would increase the breadth and quality of the expectations in research for promotion.

b. Teaching

(1) Assumptions

Quality teaching is a major responsibility of all faculty. There are many modes or formats for teaching, as seen in the fact that faculty members work with students in many settings (e.g., lecture, seminar, class laboratory, and personal research laboratory). Faculty members are expected to demonstrate a commitment to facilitating student learning and establishing satisfactory performance in six key areas of teaching expectation, including:

- Creates an environment conducive to student learning, including respect for students (as reflected in student evaluations)
- Demonstrates basic depth and currency of knowledge of the subject area, including modern forward looking courses and continued professional growth (as reflected in course syllabi, assignments, and ongoing professional development)
- Uses instruction methods that impart basic content and/or develop critical thinking, reasoning, and communication skills (as seen in syllabi, assignments, and student evaluations)
- Demonstrates an understanding of course design and clearly articulates course goals and expected outcomes (as seen in course syllabi, assignments, and student evaluations)
- Demonstrates effective achievement of student learning goals (as seen from data associated with direct assessment of student achievement)
- Demonstrates effective involvement in experiential training of graduate (Ph.D. and M.S.) and undergraduate students (as indicated by numbers of students, timeliness in completion of student projects, oral presentation of student results in appropriate venues, and, in some circumstances, publication of student work in peer-reviewed outlets).

(2) Teaching Load Considerations

In addition to teaching effectiveness, the Department makes a strong effort to consider over-all teaching loads when evaluating faculty members, taking into account the following factors: 1) contract percentages for teaching, 2) pre-tenure or tenured status, 3) credit hours, 4) contact hours, 5) presence or absence of laboratory activities, 6) number of laboratory sections and faculty involvement, 7) level of course development, 8) class size, 9) level of graduate teaching assistance, and 10) whether the course is required or an elective. The Department has a strong commitment to limit teaching loads for pre-tenure faculty members. The purpose of this is to aid in recruitment and to give new faculty members time to develop a strong teaching program and establish their research and graduate training programs.

(3) The evaluation process:

The Biology Department Chair establishes a deadline for submission of faculty documentation of teaching effectiveness (along with other materials associated with the faculty evaluation process).

Faculty members prepare documentation of teaching effectiveness (see below), which will be evaluated by the Faculty Executive Committee and the Chair. These documents include a statement of teaching activities, student evaluations for formal courses, teaching materials such as syllabi and assignments/exams, and a reflective statement on teaching. The faculty member must include a statement that indicates how the documents support effectiveness in the six areas of teaching expectations.

The Faculty Executive Committee evaluates the materials and provides a written assessment that specifically address if/how the faculty member satisfies the department's six expectations for teaching effectiveness and provides justification for its assessment. The Faculty Executive Committee may determine that there is insufficient documentation in the materials submitted by the faculty member to address all of the components of teaching effectiveness and may ask the faculty member for additional information.

The Biology Department Chair also provides input to each faculty member's evaluation. In all such assessments of a faculty member's teaching effectiveness, the chair must specifically address if/how the faculty member satisfies the department's six expectations for teaching and provide justification for his/her assessment. While independent, the Chair's assessment should take into consideration the comments of the Executive Committee. In addition, the faculty member may ask the chair to review additional documents or make a class visit with adequate lead time to conduct additional assessment if deemed necessary.

(4) Probationary period

During the probationary period, a faculty member must have demonstrated both a willingness and effectiveness at teaching regular courses, as well as supervise individual student work. As the time at UND increases, faculty members should also be contributing to the teaching mission by serving as an effective mentor for undergraduate and graduate students and serving on student advisory committees at the honors, masters, or doctoral level.

The faculty member must demonstrate effectiveness as a teacher and it is important that there not be a consistent pattern of concerns related to student complaints about poor preparation, or lack of fairness in the evaluation of students. There should also not be consistently low ratings in course evaluations. In cases in which course ratings are low, the Faculty Executive Committee will specifically take into consideration the instructor's efforts toward improvement. By the time of the third-year review, the probationary faculty member should have demonstrated basic teaching-related skills consistent with that eventually needed for tenure.

(5) Characteristics of teaching expected for tenure

To be tenured in the Biology Department, the faculty member must meet the basic expectations for the hallmarks of teaching effectiveness. This would include significant contributions to the department's teaching mission and significant progress toward all six areas expected for effective teaching. Exceptional accomplishment in teaching would be reflected by: innovative contributions to the teaching mission of the department; outstanding student evaluations; effective mentoring of large numbers of undergraduate and graduate students; leadership in curriculum design, implementation and assessment; formal recognition of teaching excellence associated with individual awards; and the active administration of extramural training grants.

(6) Characteristics of teaching expected for promotion

In general, promotion to associate professor occurs at the same time as the tenure decision. Thus, the criteria for this promotion are essentially the same as for tenure.

For promotion to full professor**,** the faculty member should provide evidence of continued commitment to and involvement in quality teaching and program development. Evidence might be seen in course evaluations, instructional development projects, peer observations, the breadth and effectiveness of student mentoring activities**,** submission and/or funding of training grants, exceptional contributions toward assessment goals, or other activities. As is true at earlier points in one's career, there should not be concerns related to student complaints and there should not be consistently low ratings in course evaluations. As with research/creative activity, a higher allocation of faculty effort toward teaching (e.g., a change from 45% to 60% effort) and/or a shift to the Educator Scholar Track should result in an increase in the breadth and quality of teaching contributions expected for promotion.

c. Service

(1) Assumptions

All faculty members are expected to make a contribution to the administrative, planning, and service functions of the department and the university. Junior faculty members in particular should be cognizant that service only represents 10% of their effort towards promotion and tenure. As they rise in seniority, faculty should be increasingly involved in the decision-making and functioning of the department, the university, the community, and/or the profession. Evidence of service can be seen in the effort and results of departmental and university-level committees, as well as in service to the community and professional organizations. Criteria used for evaluating committee service include effective participation, leadership, and peer recognition. The Biology Department also considers student advising to be very important to student and program success. The characteristics of quality student advising includes engaged, effective and timely student advising; faculty availability; knowledge of program and career requirements; sound advice; and peer recognition.

(2) Evaluation process

Each faculty member to be evaluated is expected to provide a list of service contributions, normally as part of the Enhanced October Supplement (Appendix 1C), with a brief description of any service, including the committee/group's activity and the faculty member's contribution to the effort.

(3) Probationary period

During the first year of the probationary period, a faculty member normally is not required to function on departmental, college or university committees. After the first year, and for the remainder of the probationary period, a faculty member is normally expected to contribute actively to the functioning of either at least one standing departmental committee each year or direct one departmental facility. Specific expectations for junior faculty will be:

Department, College, & University Committees

Year 1

- There will be no expectations of service on departmental, college or university committees

Years 2 - 3

- The faculty member will normally serve on a maximum of one department standing committee and chairing of multiple-member committees will normally not be allowed, without the approval of the chairperson.
- The faculty member should normally not serve on college or university committee unless both the faculty member and department chairperson agree on such service.

Years 4 - 6

- The faculty member will normally serve on a maximum of one standing department committee and can chair the committee with the consent of the department chairperson.

The faculty member will normally only serve on one college or university committee. Any additional requests for College or University service must be approved by the faculty member and the department chairperson.

Individuals with previous professorial experience who join the faculty will be subject to the restrictions commensurate with their experience.

Academic Advising

Year 1

New faculty will not be required to advise undergraduate students during their first year on campus

Years 2 - 6

Faculty will be assigned a pool of undergraduate students to advise by the Department Chairperson**.** The Department Chairperson will attempt to make an equitable distribution of the number of advisees per faculty. Faculty members are expected to be available on a timely basis and provide informed advice to students regarding the development of programs of study. Taking on additional advising responsibilities, beyond the assigned pool of students, should only be done in consultation with the chairperson.

(4) Characteristics of service expected for tenure

To be tenured in the Biology Department, each year after the first year a faculty member must normally have contributed actively to either the functioning of at least one standing departmental committee, oversight of a departmental facility, or other service duties beyond advisement. Furthermore, the faculty member should have demonstrated competence as a faculty advisor and there should be some evidence of contribution to university-level activities or non-compensated participation in community or professional

service. In light of the cautionary limits we place on service for pre-tenured faculty, exceptional achievement in service is unlikely but not impossible. Exceptional achievement associated with service would be seen in the faculty member who exhibits significant leadership associated with departmental, university or professional initiatives, is recognized by his/her peers for service and community outreach, significantly advances the professional development of others, and holds leadership roles in professional organizations.

(5) Characteristics of service expected for promotion

In general, promotion to associate professor occurs at the same time as the tenure decision. Thus, the criteria for this promotion are essentially the same as for tenure.

For promotion to full professor**,** the faculty member should provide evidence of continued and high-level involvement in service roles and there should be evidence of involvement and leadership beyond the department level. Evidence might be seen in occasional service on college- or university- level committees, as well as in non-compensated contributions to the functioning of professional groups, editorial boards, and community activities. As with other areas of faculty responsibility, a higher allocation of faculty effort toward service will increase the breadth and quality of the expectations in service for promotion. Normally, however, faculty are limited to a 10% service expectation as part of their position description.

6. Criteria for annual evaluation of faculty performance

In addition to evaluations for promotion and tenure, all faculty are evaluated annually based on the information provided to the Chair and the Faculty Executive Committee in their Enhanced October Supplement (Appendix 1C) and other appropriate materials. Tenured faculty members are also evaluated more extensively on a triennial basis. Expectations in both annual and triennial evaluations should reflect the Faculty Track of the individual and the percent of their effort for research/creative activity, teaching and service as stated in the Position Description Form. Although based on a more restricted temporal "snapshot" than evaluations for promotion and tenure, annual and triennial evaluations should also use the defined hallmarks for faculty accomplishment in Biology (Table 1) to place the faculty member's activities in research/scholarly activity, teaching and service into one of five categories:

SIGNIFICANTLY EXCEEDS EXPECTATIONS
EXCEEDS EXPECTATIONS
MEETS EXPECTATIONS
FALLS SHORT OF EXPECTATIONS
FALLS SIGNIFICANTLY SHORT OF EXPECTATIONS

Such annual and triennial evaluations are especially critical for faculty early in their career to assure that they receive sufficient and appropriate feedback in order to effectively proceed through the tenure and promotion process.

7. Documents and procedures associated with evaluation of tenure track faculty

a**.** Once per year each faculty member will provide the following on the indicated dates:

1. Updated CV (September 15th)
2. Enhanced October Supplement (September 15th). The department will provide an electronic version of this form (Appendix IC), similar to the current R & E

form used for our internal evaluations. The form will cover all accomplishments, including teaching, research and service, for the fiscal year, July 1 - June 30.

3. Supporting Materials for Teaching (October 15th). Materials will be provided by the faculty member by October 15th of each year. For non-tenured faculty, all Supporting Materials for Teaching must be updated yearly. For tenured faculty on three year evaluation cycles, the teaching and reflective statement materials may be updated yearly, but must be updated every third year. These materials include:

   (a) Student Evaluations: Results from Standard Undergraduate Student Assessment of Teaching forms (USAT) will be provided by the Biology Department. In addition to the USAT, faculty may provide other types of student evaluations, if they so desire.

   (b) Teaching Materials: Including, but not limited to:
   Syllabi: Representative syllabi from each course will be provided.
   Representative assignments and/or exams: One representative assignment and/or examination from each course will be submitted for review.

   (c) Reflective Statement on Teaching: The reflective statement should address how the accompanying documents support the reviewee's effectiveness in all 6 key areas of teaching expectations, including direct assessment data. The reflective statement could include concise statements regarding the reviewee's philosophical approach to teaching, specific departmental learning goals associated with the primary courses instructed, and pedagogical approach(es) deemed appropriate for meeting these goals. It should be noted that direct assessment data is not required for each course each year. Direct assessment data associated with major goals and courses of primary responsibility should, however, be present in the reflective statement for evaluations associated with the 3rd year pre-tenure review, promotion/ tenure decisions, and triennial evaluations for tenured faculty.

4. Supporting materials for research and service (October 15th). In addition to the material provided in the CV and Enhanced October Supplement, untenured faculty are expected to provide, on a yearly basis, a concise reflective statement on their research and service activities. The primary purpose of the reflective statement is to discuss past accomplishments and outline future goals during the upcoming review period. University policy does not require tenured faculty to write reflective statements on their research and service but they are encouraged to do so prior to their triennial evaluations.

Note: As per College of Arts and Sciences policy, the Reflective Statement for teaching, research and service is limited to a total of 6 single-spaced pages.

b. The evaluation of first-year, non-tenured appointees shall be conducted by the Executive Committee at the end of the first semester of their first year, so that there will be some reasonable basis for a decision to reappoint by the Department Chairperson in consultation with the Executive Committee.

c. The evaluation of second-year, non-tenured appointees shall be conducted by the Executive Committee toward the end of their third semester, so that there will be some reasonable basis for a decision to reappoint by the Department Chairperson in consultation with the Executive Committee.

d. The evaluation of third-year, non-tenured appointees shall be conducted toward the end of their fifth semester, so that there will be some reasonable basis for reappointment. In order to assure broad faculty input on third year reappointments, all tenured faculty will participate in the reappointment process. All materials in the Academic Personnel Action file, including those of previous review and evaluation processes, as well as updated Curriculum Vitae, Enhanced October Supplement (Appendix II) and supporting materials for research, teaching, and service provided by the nominee, shall be made available to the tenured faculty prior to their vote on reappointment. Materials shall be available for review for one week. All materials must be reviewed in the departmental office or conference room. It is anticipated that those voting shall have reviewed all materials prior to casting a vote. The Department Chairperson will call a meeting of all tenured faculty to discuss the decision to reappoint. After the meeting, the Department Chairperson will provide a form for written comments and a vote for reappointment, no reappointment, or abstention. All votes and written comments will be made available to the person being evaluated. Based on these votes and written comments, the Department Chairperson will make the final recommendation concerning reappointment in consultation with the Executive Committee. The Executive Committee will also consider these written comments in the development of the normal third-year review and evaluation. All written comments and votes will become part of the Academic Personnel Action file.

e. The evaluation of fourth year and beyond non-tenured appointees shall normally be conducted by the Executive Committee during the second semester of their fourth and fifth years; and may be conducted at other times as well, if circumstances, determined either by the individual faculty member or the Department Chairperson, require it. The Department Chairperson will use these evaluations in making the decision to reappoint in consultation with the Executive Committee.

f. Since the primary objective of faculty evaluation is to improve the quality of the faculty, the evaluation of tenured faculty shall be conducted at least every three (3) years after their appointment with tenure; and may be conducted at other times as well, if circumstances, determined either by the individual faculty member or the department chairperson, require it, or the evaluations are requested by the faculty member. Faculty members who are within three years of retirement need not be evaluated.

Unless otherwise stated, the departmental Executive Committee, minus the department chairperson, shall conduct the review and evaluation**.** Should a member of the committee be

scheduled for review, or should some other member disqualify him or herself, the department chair shall appoint a temporary replacement from among those who have previously served.

The review and evaluation shall be based on information provided by the faculty member as detailed above**.** In addition, the reviewee shall submit a set of recent (since the last evaluation) publications. Under unusual circumstances, an external evaluator may be used with the mutual consent of the Executive Committee (minus the chairperson) and the person being evaluated. However, in all cases of consideration for promotion and tenure an external evaluator shall be used.

The members of the Executive Committee shall individually review the materials, but shall collectively formulate a written draft, using the Biology Department Tenured and Tenure-track Evaluation Form (Appendix II). In each area of faculty responsibility, the Executive Committee will provide a written summary of the reviewee's performance and make a judgment as to how effectively the faculty member is either meeting, or not meeting, expectations based on the evaluation criteria previously adopted by the Biology Department faculty (see Hallmarks of Professional Accomplishment in Table 1). In the absence of unanimous agreement, the committee may draft majority and minority reports. The committee shall convey the drafts(s) to the reviewee, and shall meet with said person to discuss its contents and to receive written rebuttal (if provided) prior to formulation and transmittance of final written versions to the department chair, with copies to the reviewee.

The chair shall review the Executive committee's summary and use both the committee's statement and her/his own evaluation of the materials provided by the reviewee to make a summary recommendation on the College of Arts & Sciences Tenured and Tenure-Track Faculty Evaluation Form (Appendix II), regarding faculty performance and, when appropriate, a recommendation for faculty reappointment or promotion. The reviewee will then be allowed to examine the summary document produced by the chair and provide a dissenting statement if so desired. The reviewee, chair of the Executive Committee, and chair of the Biology Department will all then sign the completed review prior to it being forwarded to the upper administration. A copy of the review document shall then be placed in the reviewee's personnel file, and will be made available to other members of the faculty if requested or if such an action is justified by the assigned responsibilities of these members of the faculty.

Minutes: 18 February 1975; 19 February 1975; 16 April 1975; 24 January 1979; 29 April 1987; 17 April 1996; 15 February 2008

C. Adjunct and Research Faculty Members

a. Adjunct Faculty

Adjunct faculty will be evaluated every two years by the Executive Committee. Information from the evaluation will be available for review prior to renewal consideration. Appointments can be renewed by a vote of a majority of the faculty.

Minutes: 28 January 1977

b. Research Faculty

Promotion and retention:

Evaluations shall be conducted triennially by the executive committee or at other times if requested by the department chair. This process is to be initiated by the departmental chairperson as for other faculty. Criteria for evaluation shall be the same as for the tenure-track faculty, but not the proportions. The evaluation shall be available to aid decisions for reappointment.

Promotion of research faculty shall be initiated by written nomination by two tenure-track faculty of higher rank. Departmental review of the nomination shall be the same as for the other faculty.

Minutes: 22 November 1982; 12 February 1987; 28 February 1997

D. Non-tenure track Instructional Personnel

All continuing appointees at the rank of lecturer or higher may be evaluated the same way as the tenure-track appointments. Activation of this procedure is at the discretion of the department chair.

Minutes: 6 March 1987

E. Teaching Assistants

All teaching assistants are evaluated with standard student teaching assessment (USAT) forms and by their supervising faculty member (Appendix III).

Minutes: 2 October 1964; 30 October 1981; 24 April 2007

F. Staff Members

Evaluation of staff members is a responsibility of the chairperson.

Minutes: 2 March 1984

G. Promotions

The departmental policy for nomination to a higher rank shall constitute the following steps:

1. The departmental chairperson shall activate the nomination process for instructors in their fourth year of service, assistant professors in their fifth year of service and associate professors in their seventh year of service.

Individuals considered for mandatory promotion evaluation are encouraged to give a departmental seminar the semester prior to this evaluation.

2. Recommendation for promotion may also be initiated by a faculty member desiring promotion or by a faculty member of higher rank who may nominate an individual. The nomination shall be in the form of a written memorandum to the department chairperson.

3. A list of 8-10 potential external evaluators of national reputation in the academic field of the nominee will be developed based on the input of the nominee and the Chairperson, in consultation with the Executive Committee. The nominee will provide the Chairperson with an indication of the past association and what, if any, potential conflict of interest might exist with the evaluators. The Chairperson will arrange for up to 4 individuals on the list to serve as evaluators. External evaluators will be supplied with a current curriculum vitae and a complete set of the nominee's publications and documentation of other scholarly accomplishments, both of which will be provided by the nominee.

4. All material in the Academic Personnel Action files, including those of the review and evaluation process, as well as an updated curriculum vitae provided by the nominee and the reviewer's evaluation, shall be made available to the faculty holding higher rank prior to their vote on the nomination. Materials shall be available for review for one week. All materials must be reviewed in the departmental office or conference room. It is anticipated that those voting shall have reviewed all available materials prior to casting a vote.

5. The criteria for promotion shall be based on those identified in the Table 1 indicating the Hallmarks of Professional Accomplishment.

6. Tenure track faculty members holding higher rank shall be called to meet by the chairperson to discuss the nomination(s) for promotion. The Chairperson shall record the comments presented for use in the written evaluation required by the administration. In the case where the department chairperson is being considered for promotion, the duties of the chairperson, as described above, shall be performed by the chair of the Executive Committee, including the written evaluation required by the administration. Following the discussion, the faculty shall vote in secret ballot for one of the three options, namely, in favor of promotion, opposed to promotion and abstain.

7. The chairperson shall immediately prepare a written recommendation on the individual's nomination, which shall be independent of, but may be based upon, the faculty recommendation. The chairperson's recommendation will include a summary of the majority and minority opinions expressed in the written votes and at the meeting. All the written votes and justifications, with voter's names deleted, will be forwarded with the chairperson's recommendation.

8. The departmental chairperson shall immediately inform in writing the individuals considered for nomination of the results of the voting and of the chairperson's recommendation, and shall also inform the other faculty.

9. In case of a recommendation for denial of promotion by the chairperson, the individual may request the opportunity to meet with and ask for reconsideration by the faculty members eligible to vote.

10. Further procedures for appeal as outlined in the Faculty Handbook shall be applicable.

Minutes: 19 December 1969; 13 December 1973; 4 November 1976; 12 February 1987; 29 April 1987; 27 October 1989; 17 April 1996

H. Initiation of Tenure Process

1. During the first two weeks of each academic year, the department chair shall initiate tenure considerations by soliciting from tenured faculty their nominations of non-tenured members. The chair shall activate the process for those nominated by two or more faculty members.

2. Nomination for tenure and promotion shall be mandatory activation for assistant professors during their 6th year of full-time service simultaneously with their promotion consideration. The department shall consider tenure and promotion to associate professor at the same time. The review for tenure in the sixth year shall result in a recommendation on whether to grant or deny tenure.

3. Tenured full time Biology faculty shall review materials available in the nominee's personnel file and the department's Annual Reports. In addition to a recent review and evaluation statement from at least three external evaluators, a set of the nominee's reprints shall be available for inspection in the departmental office or conference room. Materials shall be available for review for one week. It is anticipated that those voting shall have reviewed all available materials prior to casting a vote.

4. Full-time tenured Biology faculty members shall be called to meet by the Chairperson to discuss the nomination(s) for tenure. In the case where the department Chairperson is being considered for tenure the duties of the Chairperson, as described above, shall be performed by the Chair of the Executive Committee including the written evaluation required by the administration. Following the discussion the faculty shall vote for one of the three options, namely, in favor of tenure, opposed to tenure and abstain. Each individual shall justify the vote in writing and sign the ballot.

5. The department chair shall promptly inform the nominee and the tenured faculty in writing of the results of the vote.

6. In the case of a negative vote on tenure or promotion in the 6th year, the nominee may request to know the reasons (either orally or in writing) for that recommendation. In addition, the individual may request an opportunity to meet with and ask for reconsideration by the tenured faculty. Following such a meeting, the tenured faculty shall vote a second time by the methods specified in section 4.

7. The Chair shall then submit a recommendation to the Dean in the 6th year. The tenured faculty and the nominee shall be informed of the recommendation. The chairperson's recommendation will include a summary of the majority and minority opinions expressed in the written votes and at the meeting. All the written votes and justifications, with voters' names deleted, will be forwarded with the chairperson's recommendation.

8. Further procedures for appeal as outlined in the Faculty Handbook shall be applicable.

Minutes: 19 December 1969; 13 December 1973, 8 October 1976; 12 October 1979; 29 April 1987; 27 October 1989.

IV. PERSONNEL INFORMATION

A. Personnel files

1. Academic Personnel Action Files

In accordance with University and State Board of Higher Education policies, the department maintains files on each faculty member. These files, which are maintained by the chairperson, are the official documentary files. They include the following materials.

a. File Control Card - Log of file usage.

b. Personnel Action Data Form - Single sheet summary of personal and professional data.

c. Academic Record Group

1) UND Academic Record Form
2) UND Academic Record Supplement
3) Curriculum vitae (most recent only)
4) Academic transcripts
5) Certification of continuing and advanced education

d. Research and/or Creative Activity Record Group

1) List of publications
(One copy of each publication appearing while on the faculty is to be provided for the departmental archives.)
2) Citations for contributions to the profession
(Official citations from societies or journals for service as an officer)
3) Research grant proposals (Cover page and project summary of each research grant proposal submitted)

e. Service Record Group

1) Citations for professional committee and panel service
2) Letters of appreciation for professional and/or community service
3) Letters or citations for honors or awards received
4) Other records of professional service

f. Evaluation Group

1) Summaries of course evaluations by students
2) Letters of evaluation from students
3) Comprehensive departmental evaluation reports
4) Recommendations for developmental leave

5) Recommendations for promotion, retention and tenure
6) Recommendations for summer research professorships
7) Nominations for the Graduate Faculty
8) Summaries of administrative service
9) Any other information on teaching, research or service activities that is pertinent to the evaluation of the faculty member.

Minutes: 1 March 1985; 12 February 1987.

2. Correspondence and Contracts File

The department chairperson will maintain a Correspondence and Contracts File for each faculty member. The contents of this file will not be available for reference in personnel action decisions but will be available to the individual for review. The following materials are to be included in this file.

a. On-going correspondence of a personal and/or confidential nature regarding the individual
b. Routine administrative correspondence affecting the individual
c. Appointment notices
d. Copies of contracts
e. Copies of personnel action documents such as resignations, due process proceedings, etc.
f. Any other materials submitted by the individual and not included in a Personnel Action File
g. Salary recommendations

Minutes: 1 March 1985

3. Placement of Materials in Files

The department chairperson will deposit all materials received in the appropriate file. Each document deposited will be recorded on the file log.

The individual may request placement of any material in his/her file that is consistent with the contents specified. This may include any statement of rebuttal or protest of material in the file that is considered to be adverse.

The department chairperson may place any pertinent information in an individual file at any time. However, the individual must be notified in writing whenever a complaint is placed in a file.

Individual faculty members have a responsibility to review their files periodically to be cognizant of their contents and to assure their completeness and currency.

Minutes: 1 March 1985

4. Removal of Material from Files

Material may be permanently removed from an individual file only under the following conditions:

a. The faculty member requests in writing to the department chairperson that specific material be removed from the file, including the rationale for such removal, e.g., material is duplicative, such as when supplements summarize detailed information, or when complaints are proved inaccurate or misleading.

b. The chairperson notifies the individual in writing about his/her decision to remove the material, and in those cases where removal is authorized the individual and the chairperson remove and dispose of the material together.

c. Should the chairperson deny the request to remove material that is considered damaging because of inaccurate or misleading information, the faculty member may appeal to the Executive Committee. In case of appeal, the chairperson will not serve as a member of the Executive Committee.

Minutes: 1 March 1985

5. Use of Academic Personnel Action Files. The following procedures have been established by the Department of Biology related to the handling of Academic Personnel Action Files. Faculty should refer to section 3.2 of the University Faculty Handbook for additional policies related to these files.

Personnel Action Files may be utilized by faculty only under the following conditions:

a. The individual may review his/her file at any time that the chairperson is available to withdraw it from the cabinet.

b. The individual must make an appointment with the chairperson for the review of his/her files.

c. The review of the file by the individual shall be made in the presence of the chairperson. The file will be returned to the chairperson upon completion of the review.

d. Personnel Action Files shall be utilized by the Executive Committee in carrying out their review and evaluation function. In such capacity the files will be used only in the department office or conference room. Except during committee use, the files will be kept in a lockable cabinet in the departmental office.

e. All Academic Personnel Action Files will be made available for review by the relevant departmental faculty in cases of promotion, retention or tenure review. The files shall be used only in the department office. When not in use, the files will be stored in a lockable cabinet.

f. In cases of promotion, retention or tenure review, the department chairperson will transmit to reviewing individuals or committees in the Arts and Sciences College and/or the University Administration the following materials.

1) Academic Record Form
2) Academic Record Form Supplements
3) Current Curriculum Vitae
4) Citations for Contributions to the Profession
5) Citations for professional committee and panel service
6) Letters of appreciation for professional and/or community service
7) Letters or citations for awards or honors received
8) Any other information that affects the individual's performance in teaching, research or service.

g. In all cases, the person or persons requesting an individual file to be utilized for whatever purpose shall sign the Control Card for that file, noting the date/time of receiving and of returning the file. The Control Card will be maintained in the file repository at all times (excluding when it is being signed).

Minutes: 1 March 1985; 12 February 1987.

B. Salaries

1. General Considerations

Evaluations are to be based upon performance during the year prior to the evaluation. In highly extenuating circumstances such as illness or sabbatical leave, evaluation based upon the past year's performance may be accepted.

At the time of forwarding the recommendation to the dean, or earlier, the chairperson shall forward the information on departmental average raise and the individual's recommended raise to each faculty member.

Minutes: 4 November 1976, 21 October 1977, 25 January 1985.

2. Assumptions associated with Merit Pay Evaluation.

In addition to the evaluations for personnel decisions related to the probationary and pre-promotion periods, the Biology Department also conducts annual evaluations for the purpose of making merit-based salary recommendations. In some years, these recommendations may not be used (e.g., there are no

raises, raises are mandated to be across-the-board, etc.). In such cases, the recommendations will simply be carried over and averaged with the evaluations of the next year. Because of the difficulty in making merit pay evaluations for faculty on developmental leave, faculty on leave will normally receive Level I merit pay adjustment for the leave period, in addition to any base salary adjustment. The chair can make additional adjustments for faculty on leave if conditions warrant.

Department policy states that the elected Executive Committee and the Department Chairman make salary recommendations based on merit (leaving any consideration of cost-of-living, equity, compression, or regional averages to the Chairperson and the Dean). Executive Committee members and the Chair are expected to examine personnel files and make recommendations based on merit, using their own judgment. That is, the department has no established, quantitative basis for tying merit to the quantity or quality of activities in the teaching, research, and service areas. Executive Committee members and the Chair use the documents supplied by individual faculty and the criteria in Table 1, regarding Hallmarks for Professional Accomplishments, to determine merit recommendations. Thus, in an indirect way, the department exercises control over this kind of merit-based evaluation through its choice of faculty members to serve on the Executive Committee or as Chair and through the rotation (or, at least, alternation of different members serving on the Executive Committee or as Chair over time). There is a clear expectation, however, that the merit rankings provided by the Executive Committee and the Chair should correlate positively with the annual evaluations of the faculty and whether the faculty met or exceeded expectations, or fell somewhere else along the range of faculty performance.

3. Procedures for Merit Pay Evaluation

Of the total amount allocated to the Department of Biology for pay raises:

a. Up to 10% will be taken off the top for discretionary money to be allocated by the Chairperson. The Chair may elect to use all, some, or none of this money. Any unused money will be added to the remaining funds discussed below.

The remaining funds designated as RF, will be distributed as follows:

b. Meritorious Achievement (MA):

Four levels of MA will be recognized for each area of faculty responsibility, including research, teaching, and service based on the criteria listed for the Hallmarks of Accomplishment for Faculty in the Biology Department (Table 1):

Level 4 - Significantly Exceeds Expectations
Faculty assigned to Level 4 will receive 8% of the RF**.**

Level 3 - Exceeds Expectations
Faculty assigned to Level 3 will receive 6% of the RF**.**

Level 2 - Approaches level of Exceeding Expectations
Faculty assigned to Level 2 will receive 4% of the RF

Level 1 - Meets Expectations
Faculty assigned to Level 1 will receive 2% of the RF.

Note: An additional level of merit pay (Level 2: Approaches Exceeding Expectations) has been incorporated that is not present in Table 1 in Section III B related to the procedures and guidelines for faculty evaluation. Past experience evaluating faculty has revealed that individuals are frequently in the transition between Level 1 and 3. Level 2 provides additional flexibility in recognizing individuals in this transition.

Assignment of faculty to a meritorious achievement level for each area of faculty responsibility will normally involve a two-stage process. First, as part of each faculty members annual evaluation by the Executive Committee and Chair, all faculty will be assigned a merit level of performance in Research, Teaching, and Service. Second, when final merit pay recommendations are forwarded to the Dean in the Spring semester, the Chair and Executive Committee will simultaneously review the rankings of performance for all faculty members to see if any final adjustment in merit performance levels are necessary. As in all deliberations, the Chair and Executive Committee members will not be involved in decisions regarding their own merit level of performance**.**

Once faculty have been assigned a meritorious achievement level for each area of faculty responsibility, the final % merit awarded to the faculty will be determined by multiplying the percent associated with the merit level for teaching, research and service, by the percent of faculty effort associated with these activities. For example, a faculty member on a 45-45-10 contract, with a merit level of 3 in research, 2 in teaching and 1 in service would have a merit pay calculation as follows:

Area of responsibility	% effort	Merit level	%	Total % merit
Research	.45	3	6	2.70
Teaching	.45	2	4	1.80
Service	.10	1	2	0.20
			Total	4.70

The chair's calculation would be similar, except with an additional area of faculty responsibility associated with the percent of effort allocated to administrative duties.

c. Instruction in introductory and core required biology courses.

Faculty who teach in these courses (Biol. 111, 150, 151, Genetics, Ecology, Cell Biology, Evolution) during the regular academic year will be recognized for the number of units taught. A unit is defined as 1/2 semester per section. Faculty will receive 0.25% of the RF per unit with a cap of 2 units for 111, 150, and 151 per semester.

d. If 1, 2 and 3 add up to more than 100%, then the final salary recommendations will be adjusted accordingly.

e. Base salary adjustment

After points 1, 2, and 3 above are addressed, the leftover funds will be distributed to all faculty that have met minimum faculty expectations, according to the percentage of their salary relative to the total salary within the department. As with the other salary adjustments, the Executive Committee and the Chair have to agree unanimously that an individual was not meeting minimum faculty expectations in order to not warrant a base adjustment.

Minutes: 15 February 2008

C. Leaves of Absence

The Biology faculty encourages its members to seek leaves of absence for professional development, conducting of research, etc., provided that inconvenience to the department is minimized. Therefore, faculty members seeking leave should request approval of the department a year prior to anticipated departure, or before making any commitments to a sponsoring agency.

In its approval the department faculty may set conditions to ensure that equitable course offerings and other responsibilities are accounted for.

The minimum staffing level of the Biology Department to meet departmental responsibilities is 16 FTE faculty. Leaves of absence will be considered by the faculty contingent upon guarantee of satisfactory level of replacement funding by the University administration.

Minutes: 14 October 1976; 2 January 1977

D. Travel

It is the policy of the Biology Department to encourage the communication at regional, national and international meetings of knowledge resulting from research conducted by faculty members while at the University. The department chair is authorized to allocate the travel funds in the departmental budget on the following basis:

1. Funds will be provided normally for active presentation of a paper or film.

2. The amount of allocation will depend upon the importance of the presentation (i.e., high for invited paper presentations).

3. The allocations may reflect funds received or available from other sources.

4. Support normally will be limited to attendance at out-of-state meetings.

5. Support normally will be limited to one meeting per year.

6. Economies in travel arrangements are to be encouraged when two or more faculty members are actively participating in the same meeting.

The department chairperson will consider "some level" of reimbursement to faculty members giving papers, chairing sessions or having other official business at the North Dakota Academy of Science meetings, as long as the meeting is outside of Grand Forks.

Minutes: 4 May 1976; 1 November 1982

E. Grievances

To the extent not inconsistent with other University policies, appeal of a decision of the chairperson may be made to the Executive Committee by submission of a letter of appeal to the committee chair. Such appeals may be made within five working days of the chairperson's decision. The committee's decision shall be rendered within five working days and shall be communicated in writing. In deliberating the appeal, the committee will make its decision without the participation of the department chairperson.

The decision of the Executive Committee may be appealed to the Biology Faculty by submission of a letter of appeal sent to the department chairperson with request for inclusion on the agenda of the next faculty meeting. This appeal must be submitted within five working days of the Executive Committee's decision. If a faculty meeting is not scheduled within the next week, the department chairperson is obligated to call a special meeting within one week for the purpose of acting on this appeal. A majority vote of the entire faculty is required on an appeal action.

Minutes: 2 March 1984

V. TEACHING POLICIES

A. Teaching Assignments

1. Course Outlines

The department chairperson shall request a course outline or syllabus for each course offering in the department, and these shall be filed in the biology office and be available to both faculty and students.

Minutes: 1 March 1972

2. Course Offerings

Faculty should strive for a predictable offering of 500-level named courses, not just seminars and directed studies.

The department should strive to offer a minimum of two 500-level courses other than seminars and directed studies per semester.

Normally, every faculty member shall be limited to one seminar (403/503) and two 500-level courses or formal* directed studies (491/592) per academic year. No formal* 500-level courses shall be taught more often than alternate years. Exception to this policy may occur with the consent of the chairperson.

*other than nonspecific directed studies listed for the faculty

Minutes: 9 May 1975; 16 September 1976; 28 February 1984; 13 December 1984.

3. Teaching Load

Faculty equity of course load in short and long term, staffing of the general biology courses and enactment of the departmental policy on teaching shall be the responsibility of the chair~~.~~ and be based on the faculty member's allocation of effort (see section II.B.3). A biology faculty member desiring to offer a class outside the Biology Department must have approval by the Chair prior to that course appearing in the class schedule.

Because different amounts of effort go into different types of courses, it is essentially impossible for the Chair to give everyone exactly the same teaching load. The final determination of any faculty member's teaching load will be done in consultation with the chair. In determining how to weigh an individual's teaching load, the following factors may be considered by the Chair:

a. Lecture hours/week. A three hour lecture course is considered to be "standard." Four credit courses would subsequently be weighted heavier than a three credit course, and a two credit course less than a three credit course.

b. Offering of laboratory courses or laboratory sections. Laboratory offerings may be considered as a fraction of a standard course or as much as the equivalent of a standard course. The weighting will depend on the number of sections offered, the availability of TAs, and the engagement of the faculty member in the actual teaching of the lab.

c. Course enrollments. Courses having large enrollments may be considered as a heavier load than those with much smaller enrollments.

d. Other teaching. This would include the offering of independent study or research credits to students, levels of student advising and research mentoring, and participation in graduate seminar courses.

Minutes: 1 October 1971; 6 September 1972; 28 February 1984; 27 October 1986; 25 November 1991; 23 April 2008

4. Coordination of Introductory Biology

Coordination of introductory biology is the single most important aspect in the operation to assure success of the educational venture. Coordinators ordinarily should come from those faculty who have taught in 150-151.

The lecture and laboratory may be coordinated by different individuals.

Ordinarily coordinating responsibilities for the introductory lab course should not be filled by graduate students.

The coordinators may serve for one or both semesters per year.

Coordinators should receive the following teaching credit; laboratory coordinator, 3/4 time; lecture coordinator, 1/2 time.

Coordinators should be provided with an office designated solely
for introductory biology; they should also be provided with substantial assistance (clerical, preparatory, etc.).

A chain of responsibility will be established by which faculty, GTAs, and students can seek solutions to their 150-151 problems.

Coordinators will recommend to APSAC the organization of 150-151 including: subject areas, emphases, topic sequence, scheduling, staffing, facilities, instructional materials, etc.

Policy regarding 150-151 will be approved by the departmental faculty.

Coordinators will carry out the study and proofing of 150-151 examinations and the study of the computer analysis of student responses.

Coordinators will have the authority and responsibility in consultation with the Academic Programs and Student Awards Committee (APSAC), for choice of textbook and lab manual and development of course outlines.

Coordinator will lecture in at least one section throughout both semesters of 150, 151. When space, enrollment and teaching loads allow, the coordinator will do all of the lecturing.

Other lecture assignments to 150, 151, as required, will be preferably for one semester, but for no less than one-half semester. Guest lecturers for specific subjects will be encouraged.

Minutes: 5 November 1969; 25 May 1970; 22 February 1971; 22 September 1971; 5 March 1975; 7 March 1975; 21 March 1975; 2 April 1975; 6 May 1975; 21 April 1978; 10 December 1987, 7 December 1993; 7 December 1994.

5. Staffing of Introductory Biology

All biology faculty should be willing if asked by the Chair to participate in team teaching of Introductory Biology 150-151 and Concepts of Biology (Biol 111) on a well coordinated and scheduled basis.

Faculty participation normally should occur in their areas of interest or expertise. Exceptions may occur for example, when:

1. faculty have heavy work loads which preclude their involvement for a semester or two or:

2. emergency situations due to illness or resignation require realignment of responsibilities.

Minutes: 5 March 1975; 2 April 1975, 7 December 1993

B. Student Advising

See the policy related to student advising in the Section II of the handbook dealing with procedures and guidelines for faculty evaluation.

C. Academic Grievances of Students

The Code of Student Life establishes University policy on student grievances.

D. Course Evaluations

All formal courses (undergraduate of enrollments of 10 or more and graduate of enrollments of 5 or more) shall be evaluated each time they are offered.

All 111, 150 and 151 lecturers will be evaluated by students using the USAT form. Evaluations will be conducted at the end of each team member's service of lectures with the results going to both the lecturer and the department chairperson.

GTAs in 150-151 will be evaluated by students, using the USAT form, at the end of each semester with results going to the GTA, the 150-151 coordinators, the advisor and the department chairperson for the GTA's file.

Minutes: 14 December 1966; 6 May 1975; 31 January 1983; 12 February 1987.

E. Tutoring Policy

Departmental graduate students and undergraduate majors may serve as formal, paid tutors in courses in which they are not concurrently teaching assistants.

Minutes: 8 February 1980.

F. Teaching Assistants

1. Contact Hours

The contact hours of graduate teaching assistants will be as follows:

1/2-time = 9 contact hours plus preparation

1/4-time = 6 contact hours plus preparation

Minutes: 4 December 1970

2. Early Release from Duties

Graduate students desirous of being relieved of their teaching duties for a portion of a semester to carry out research or participate in a special program must: 1) make their intentions known to the course supervisor and the department chairperson at the beginning of the semester; 2) secure a qualified replacement who is acceptable to the course supervisor and who can meet the assigned classes; and 3) take care of all arrangements at the payroll and graduate offices. In regard to #2 above, it is understood that only under exceptional circumstances (e.g., when one has completed all the degree requirements) will a graduate student who already holds a half-time teaching and/or research appointment be acceptable.

3. Request for Resignation

Requests for resignations of signed GTA contracts will be considered by the Chair, DGS and Executive Committee on an individual basis and will be considered in decisions on subsequent departmental support.

Minutes: 24 February 1968; 24 March 1993

VI. CURRICULA

A. Curriculum Changes

Faculty submit proposed new courses and other curriculum changes to the Academic Programs and Student Awards Committee (APSAC). APSAC has the responsibility to recommend curriculum changes to the faculty.

Minutes: 12 September 1978

B. Undergraduate Degrees

1. Biology Major (Arts and Sciences)

The Biology major was first presented in 1916 in the College of Liberal Arts, now the College of Arts and Sciences. Except for its absence from the 1926 catalog, this major has been continued until the present. The current form of the major was instituted in 2006.

Plant Sciences Emphasis was discontinued in the Fall of 1998.

Zoology Emphasis was discontinued in the Fall of 1998.

In the spring of 2006, the faculty in Biology revised the B.S. in Biology degree and included a General Biology, Molecular-Cellular-Developmental Biology, and Ecology and Evolutionary Biology options.

Minutes: 22 November 1963; 3 November 1965; 13 December 1971; 29 March 1972; 27 November 1974; 6 November 1975; 21 November 1978; 21 November 1979; 31 January 1983; 2 March 1984; 27 October 1986; 5 March 1998; 3 May 2006

B.S. in Biology

Required 125 credits (36 of which must be numbered 300 or above, and 60 of which must be from a 4-year institution, including:

I. GENERAL EDUCATION REQUIREMENTS (minimum 39 total credits)

A. Communication (minimum 9 credits)

ENGL 110 (3) College Composition I
COMM 110 (3) Fundamentals of Public Speaking

B. Social Sciences (minimum 9 credits in 2 departments)

C. Arts & Humanities (minimum 9 credits in 2 departments)

D. Mathematics, Science and Technology (minimum 12 credits in 2 departments)

BIOLOGY MAJOR (Minimum 43 total hours required)

A. Core Requirements for Each Option (23 hours; all courses below)

BIOL 150 (3) and BIOL 151 (3) General Biology I and II*
BIOL 150L (1) and BIOL 151L (1) General Biology I and II Labs
BIOL 312 (3) Evolution
BIOL 315 (3) Genetics
BIOL 332 (3) Ecology
BIOL 341 (3) Cell Biology
BIOL 480 (3) Senior Capstone Course**

**Students who take BIOL 111 and BIOL 111L (Concepts of Biology and Lab) prior to becoming a Biology major are required to take BIOL 150 and BIOL 150L to complete the General Biology sequence*

***Appropriate Senior Honors Thesis (BIOL 489) credits can be substituted for BIOL 477 if approved by both the Biology faculty advisor and the Biology Department Chairperson*

We strongly advise mastery of materials in all core courses except BIOL 477 prior to enrolling in other 300 or 400 level Biology courses

No more than one Biology course intended for non-majors (all University of North Dakota 200 level Biology courses) will count toward the 43 hour major

Up to two life-sciences related courses from other departments at the University of North Dakota may be counted toward the 43 hour major, provided they do not overlap extensively with subject matter included in Biology Department courses also being used for credit

At least four upper division Biology courses with laboratories must be included in the 43 hour major. Two upper division life sciences-related laboratory course from other departments at the University of North Dakota may be counted toward the four course upper division laboratory requirement, provided they do not overlap extensively with subject matter in Biology Department courses also being used for credit

A BIOL 494 Directed Studies or BIOL 492 Research Experience may be counted as one upper division laboratory requirement with appropriate documentation of the laboratory experience and approval by the supervising faculty member, the faculty advisor, and the Biology Department Chairperson

B. Advanced Requirements for Each Option (minimum 20 credit hours required)

Option 1. General Biology

This program is designed for students interested in obtaining a broad background in biology, with maximum flexibility in program design. Students should consult with their advisor to develop an appropriate course of study

Advanced requirements (20 credit hours of Biology electives)

All other 300 or 400 level Biology courses will count toward the credit hours needed

Students may include no more than 10 combined credit hours from Biol 494 (Directed Studies), BIOL 492 (Research), and BIOL 489 (Senior Honors) towards the total 43 credit hours required for this Biology Major emphasis

Option 2. Molecular, Cellular, and Developmental Biology

This program is designed for students interested in the cellular and sub-cellular mechanisms underlying biological phenomena. It is especially appropriate for students anticipating a career in biotechnology or biomedical research. These courses will provide a foundation for students planning to continue their studies in graduate or professional programs, or students wanting to pursue technical positions in life science research or pharmaceutical companies. Students should consult with their adviser to develop an appropriate course of study.

Advanced requirements (minimum 20 credit hours)

Required courses (12 credit hours)

BIOL 341L (1) Cell Biology Lab
BIOL 410 (4) Molecular Biology Techniques
BIOL 378 (3) Developmental Biology
BIOL 4XX (4) Genomics

Required option courses (minimum 5 credit hours)

BIOL 367 (3) Cytology
BIOL 369 (2) Histology
BIOL 369L (2) Histology Lab
BIOL 450 (2) Molecular Genetics
MBIO 302 (2) General Microbiology
BMB 401 (3) Biochemistry of Proteins
BIOL 315R (1) Genetics Recitation

Biology electives (3 additional credit hours)

All 300 or 400 level Biology courses, including any of those not taken from the groups above, will count toward the credit hours needed

Students may include no more than 10 combined credit hours from Biol 494 (Directed Studies), BIOL 492 (Research), and BIOL 489 (Senior Honors) towards

the total 43 credit hours required for this Biology Major emphasis

Option 3. Ecology and Evolutionary Biology

This program is designed for students interested in ecology, evolutionary biology, and related areas. Students will explore animal behavior, biodiversity, evolutionary history and interactions of organisms and their environments. The coursework outlined here will familiarize students with the conceptual framework of ecology and evolutionary biology and provide necessary analytical skills and familiarity with the major groups of living organisms. The program will prepare students for careers in ecological, evolutionary and related fields, including those in conservation, the environment, and graduate study. Students should consult with their adviser to develop an appropriate course of study.

Advanced requirements (minimum 20 credit hours)

Required courses (7-8 credit hours):

BIOL 332L (1) Ecology Lab
BIOL 470 (3) Biometry
BIOL 376 (3) Animal Biology and BIOL 376L (1) Animal Biology Lab
or
BIOL 350 (3) Plant Biology

Required option courses (6 credit hours required)

BIOL 333 (3) Population Biology
BIOL 338 (2) Animal Behavior
BIOL 433 (3) Aquatic Ecology
BIOL 439(3) Conservation Biology

Biology electives (6-7 credit hours)

All 300 or 400 level Biology courses, including any of those not taken from the required groups above, will count toward the credit hours needed.

Although not required, all students in the Ecology and Evolutionary Biology emphasis are encouraged to take both plant (Biol 350) and animal (BIOL 376) biology.

Depending on the student's area of interest, any, or several of the following courses that were not already identified are potentially recommended: BIOL 336 (Systematic Botany), BIOL 363, BIOL 364, 364L (Parasitology and lab), BIOL 425 (Ichthyology) BIOL 427 (Ornithology), BIOL 428 (Mammalogy)

BIOL 410 (Molecular Techniques) and/or Biol 4XX (Genomics) recommended as one elective course(s) for students interested in Ecology and Evolutionary Biology

Students may include no more than 10 combined credit hours from Biol 494 (Directed Studies), BIOL 492 (Research), and BIOL 489 (Senior Honors) towards the 43 credit hours required for this Biology Major emphasis

Physical Sciences requirement (3-4 credit hours)

Students will choose one of several possible courses from Geology or Geography, including but not limited to GEOG 134, 134L (Introduction to Global Climate and Lab), GEOG 471, 471L (Cartography and Computer Assisted Mapping), GEOG 474, 474L (Introduction to GIS), GEOL 101, 101L (Introduction to Geology and Lab), GEOL 102, 102L (The Earth Through Time and Lab)

COGNATE REQUIREMENTS IN OTHER DEPARTMENTS FOR ALL THREE OPTIONS (30-33 credit hours)

A. Mathematics (3-4 credit hours)

MATH 146 (3) Applied Calculus I

or

MATH 166 (4) Calculus II

Pre-requisites for either course are the responsibility of the student

B. Chemistry (16-18 credit hours)

CHEM 121, 121L (4) General Chemistry I & Lab
CHEM 122, 122L (4) General Chemistry II & Lab
CHEM 240 (4) Survey of Organic Chemistry and BMB 301 (4) Biochemistry Lecture

or

CHEM 341, 341L (5) and CHEM 342, 342L (5) Organic Chemistry I and II with labs

C. Physical sciences (8 credit hours)

PHYS 211 (4) and PHYS 212 (4) College Physics I and II

or

PHYS 251 (4) and 252 (4) University Physics I and II

D. Other - Statistical Methods and Data Interpretation (3 credit hours)

All students must take one of the following courses; BIOL 470 (3) Biometry, SOC 326 (3) Sociological Statistics, or MATH 321 (3) Applied Statistical Methods

Teacher Certification

Students seeking secondary teacher certification in Biology must complete the Department of Teaching and Learning requirements in Secondary Education (see Secondary Education listing).

These students must complete the B.S. with Major in Biology or the B.S. with Major in Biology (Pre-Health Sciences Emphasis) or the B.S. in Fisheries and Wildlife Biology and include the following three courses as biology electives:

Biol 312	Evolution	(3)
Biol 336	Systematic Botany	(4)
MBio 302	General Microbiology	(4)

Other choices of courses in Biology should be made with the aid of a Biology adviser. Among the other requirements for the major, students seeking teacher certification must complete the Chem 240 Organic Chemistry (5) and BMB Biochemistry Lecture (3) option. Level II language proficiency is not required of students who complete the Teaching and Learning program in Secondary Education. These students must however, complete at least four hours of Earth Science (Geol 101 and 101L Physical Geology, Geog 121 and 121L Physical Geography, or Geog 134 and 134L, Introduction to Global Climate). Formal admission to Teacher Education is required and is normally sought while enrolled in T&L 325 (see Department of Teaching and Learning listing). Biology majors seeking secondary certification must have an adviser both in the Biology Department and in the Department of Teaching and Learning.

B.S. in Biology with Pre-Health Sciences Emphasis

This program is designed for students interested in medicine or allied medical fields such as dentistry, veterinary medicine, or medical research. Pre medicine students should consult with their Biology adviser and the pre-health adviser in the College of Arts and Sciences to develop an appropriate course of study. All other students should consult with their Biology adviser.

Required 125 credits (36 of which must be numbered 300 or above, and 60 of which must be from a 4-year institution, including:

I. GENERAL EDUCATION REQUIREMENTS (minimum 39 total credits)

A. Communication (minimum 9 credits)

ENGL 110 (3) College Composition I
COMM 110 (3) Fundamentals of Public Speaking

B. Social Sciences (minimum 9 credits in 2 departments)

C. Arts & Humanities (minimum 9 credits in 2 departments)

D. Mathematics, Science and Technology (minimum 12 credits in 2 departments)

BIOLOGY MAJOR WITH PRE-HEALTH SCIENCE EMPHASIS (Minimum 43 total hours required)

A. Core Requirements for Each Area of Emphasis (23 hours; all courses below)

BIOL 150 (3) and BIOL 151 (3) General Biology I and II*
BIOL 150L (1) and BIOL 151L (1) General Biology I and II Labs
BIOL 312 (3) Evolution
BIOL 315 (3) Genetics
BIOL 332 (3) Ecology

BIOL 341 (3) Cell Biology
BIOL 480 (3) Senior Capstone Course**

**Students who take BIOL 111 and BIOL 111L (Concepts of Biology and Lab) prior to becoming a Biology major are required to take BIOL 150 and BIOL 150L to complete the General Biology sequence*

***Appropriate Senior Honors Thesis (BIOL 489) credits can be substituted for BIOL 477 if approved by both the Biology faculty advisor and the Biology Department Chairperson*

We strongly advise mastery of materials in all core courses except BIOL 477 prior to enrolling in other 300 or 400 level Biology courses

No more than one Biology course intended for non-majors (all University of North Dakota 200 level Biology courses) will count toward the 43 hour major

Up to two life-sciences related courses from other departments at the University of North Dakota may be counted toward the 43 hour major, provided they do not overlap extensively with subject matter included in Biology Department courses also being used for credit

At least four upper division Biology courses with laboratories must be included in the 43 hour major. Two upper division life sciences-related laboratory course from other departments at the University of North Dakota may be counted toward the four course upper division laboratory requirement, provided they do not overlap extensively with subject matter in Biology Department courses also being used for credit

A BIOL 494 Directed Studies or BIOL 492 Research Experience may be counted as one upper division laboratory requirement with appropriate documentation of the laboratory experience and approval by the supervising faculty member, the faculty advisor, and the Biology Department Chairperson

Advanced requirements (minimum 20 credit hours)

Required (12 credit hours from this group)

BIOL 341L (1) Cell Biology Lab
BIOL 364 (2) Parasitology
BIOL 364L (2) Parasitology Lab
BIOL 367 (3) Cytology
BIOL 369 (2) Histology
BIOL 369L (2) Histology Lab
BIOL 420 (3) Neuroscience
BIOL 442 (3) Physiology of Organs and Systems
BIOL 442L (1) Physiology of Organs and Systems Lab
MBIO 328 (3) Introduction to Immunology
BIOL 376 (3) Animal Biology

BIOL 376L (1) Animal Biology Lab
BIOL 378 (3) Developmental Biology
BIOL 4XX (4) Genomics
BIOL 450 (2) Molecular Genetics

Biology electives (8 additional credit hours)

All 300 or 400 level Biology courses, including any of those not taken from the groups above, will count toward the credit hours needed

Students may include no more than 10 combined credit hours from Biol 494 (Directed Studies), BIOL 492 (Research), and BIOL 489 (Senior Honors) towards the total 43 credit hours required for this Biology Major emphasis

III. COGNATE REQUIREMENTS IN OTHER DEPARTMENTS (30-33 credit hours)

A. Mathematics (3-4 credit hours)

MATH 146 (3) Applied Calculus I

or

MATH 166 (4) Calculus II

Pre-requisites for either course are the responsibility of the student

B. Chemistry (16-18 credit hours)

CHEM 121, 121L (4) General Chemistry I & Lab
CHEM 122, 122L (4) General Chemistry II & Lab
CHEM 240 (4) Survey of Organic Chemistry and BMB 301 (4) Biochemistry Lecture

or

CHEM 341, 341L (5) and CHEM 342, 342L (5) Organic Chemistry I and II with labs

Note: the sequence of CHEM 341 and CHEM 342 <u>and</u> BMB 301 is highly recommended for pre-medicine students because some medical schools require or prefer this combination.

C. Physical sciences (8 credit hours)

PHYS 211 (4) and PHYS 212 (4) College Physics I and II

or

PHYS 251 (4) and 252 (4) University Physics I and II

D. Other - Statistical Methods and Data Interpretation (3 credit hours)

All students must take one of the following courses; BIOL 470 (3) Biometry, PSYC 241 (4) Introduction to Statistics, SOC 326 (3) Sociological Statistics, or MATH 321 (3) Applied Statistical Methods

Minutes: 3 May 2006, 2 May 2008

B.S. In Fisheries and Wildlife Biology

This curriculum, the only one in the department with a specific titled degree, was established in 1963 as Fisheries and Wildlife Management. The present title has been in effect since 1979. The most recent curriculum was approved in September of 1993, with minor curriculum adjustments in May of 2008.

Minutes: 22 November 1963; 13 October 1965; 16 December 1976; 16 September 1977; 21 November 1978; 9 November 1979; 25 January 1980; 31 January 1983; 17 September 1993; 2 May 2008.

Required 125 hours including:

I. General Graduation Requirements, see pages 30-39.

II. The Following Curriculum:

52 -54 major hours, including:

Biol 150, 151	Introduction to Biology	(6)
Biol 150L, 151L	Introduction to Biology Lab	(2)
Biol 315	Genetics	(3)
Biol 332, 332L	General Ecology and Lab	(4)
Biol 336	Systematic Botany	(4)
Biol 431	Wildlife Management	(4)
Biol 438	Fisheries Management	(3)
Biol 442	Physiology of Organs and Systems	(3)
Biol 470	Biometry	(3)

3 hours from : (3)

Biol 312	Evolution	(3)
Biol 333	Population Biology	(3)

7-8 hours from: (3-4)

Biol 363	Entomology	(4)
Biol 364, 364L	Parasitology and Lab	(4)
Biol 376, 376L	Animal Biology and Lab	(4)
Biol 380	Disease Biology	(3)

3 hours from: (3)

BiCh 301	Biochemistry Lecture	(3)
Biol 341	Cell Biology	(3)

4 hours from: (4)

Biol 336	Systematic Botany	(4)
Biol 360	Freshwater Algae	(4)

Fisheries or Wildlife Option: (6-7)

Fisheries Option

Biol 425	Ichthyology	(3)
Biol 433, 433L	Aquatic Ecology and Lab	(4)

Wildlife Option

Biol 427	Ornithology	(3)
Biol 428	Mammalogy	(3)

*Biological Station or Field Work (No Credit)

III. Required in other departments:

Chem 105	General Chemistry I	(4)
Chem 106	General Chemistry II and Qualitative Analysis	(4)
Chem 212	Organic Chemistry	(5)
Comm 161	Fundamentals of Public Speaking	(3)

4 hours from: (4)

Geol 101/101L	Introduction to Geology	(4)
Phys 203	General Physics	(4)

3-4 hours of math from either Math 146 (Applied Calculus) or Math 166 (Calculus II). The prerequisites for each of these courses is the responsibility of the student.

*One summer of field experience or study at a recognized biological station is required.

Minutes 2 May 2008

Minor in Biology (minimum 20 hours required)

Required 20 hours, including:

Biol 150 and Biol 151	General Biology I & II	(6)
Biol 150L and Biol 151L	General Biology I & II Lab	(2)
Biol 315	Genetics	(3)
OR		
Biol 341	Cell Biology	(3)

AND

Biol 312	Evolution	(3)
OR		
Biol 332	Ecology	(3)

Electives (6)

All other 300 or 400 level biology courses, including those listed above that have not already been taken to meet the minor requirements, will count toward the 20 hour minor.

No more than one UND life science course from outside the Biology Department may be counted toward completion of the minor.

Minutes: 3 May 2006

C. Undergraduate Courses

1. Laboratory Fee Payment

The assessment of laboratory fees for students enrolled in Biology 111L, 150L, 151L and 371 was approved and took effect Fall semester of 1995.

Minutes: 27 March 1995

2. List of Undergraduate Courses (See Appendix IV)

D. Graduate Degrees

1. Master of Science (Thesis)

The M.S. degree program with thesis requires the completion of a program of study of at least 30 semester credits beyond the baccalaureate degree. The program of study, prepared with the approval of a three-member faculty advisory committee, includes the following:

a. at least 30 credits including course work, research and thesis with research and thesis accounting for no more than 50% of credits;
b. 2 credits of BIOL 503 Seminar (credits included in a ~~or b~~ above);
c. satisfactory completion of an acceptable thesis proposal (written proposal, proposal presentation and proposal defense) evaluated by the student's advisory committee;
d. satisfactory completion of a comprehensive examination administered by the student's advisory committee; and
e. satisfactory completion of an acceptable thesis (written thesis, thesis seminar and thesis defense) evaluated by the student's advisory committee.

Minutes: 24 April 1964; 1 May 1973; 2 May 2008

2. Master of Science (Non-Thesis)

This degree program is designed for students who wish to obtain broad training in graduate biology without research emphasis. The M.S. non-thesis degree program requires the

completion of a program of study of at least 32 semester credits beyond the baccalaureate degree. The program of study, prepared with the approval of a faculty supervisor, includes the following:

a. At least 32 credits of course work
b. A minimum of 2 credits of BIOL 503 Seminar (credits included in a above);
c. A minimum of 23 credits in the major (credits included in a above);
d. Research 599 and Thesis 998 credits will not count toward the 32 credits;
e. Satisfactory completion of a comprehensive examination administered by the student's advisor and two other faculty members selected by the student with the concurrence of the advisor, the faculty members involved and the department chairperson; and
f. Satisfactory completion of an acceptable Independent Study. The Independent Study should be substantial and rigorous and involve a written report and a formal oral presentation to the department.

Minutes: 7 December 1984, 15 March 1985; 24 March 1993; 2 May 2008

3. Doctor of Philosophy

The Ph.D. degree program requires the completion of a program of study of at least 90 semester credits beyond the baccalaureate degree. The program of study, prepared with the approval of a five-member faculty advisory committee, includes the following:
a. a major area of at least 90 credits including course work, research and dissertation structured at the committee's discretion but with a minimum of 18 semester credits of course work. Work completed in a master's program may be incorporated into the doctoral program if approved by the student's advisory committee;
b. a minor is not required, but each student is expected to show competence in related areas as determined by the student's faculty advisory committee;
c. 4 credits of seminar (included in a. above);
d. two scholarly tools. The nature of the scholarly tools shall be determined based upon their importance to the student's field of research as determined by the student's advisory committee;
e. satisfactory completion of an acceptable thesis proposal (written proposal, proposal presentation and proposal defense) evaluated by the student's advisory committee;
f. satisfactory completion of a comprehensive examination administered by the student's advisory committee;
g. performance of research suitable for publication in refereed professional journals and satisfactory completion of an acceptable dissertation (written dissertation, dissertation seminar and dissertation defense) based thereon.

Minutes: 24 April 1964; 1 May 1973; 20 February 1987; 2 May 2008

4. Doctor of Arts (suspended – Minutes: 2 February 1999)

E. List of Graduate Courses (See Appendix IV).

VII. RESEARCH POLICIES AND PROCEDURES

A. Research Policy

The departmental research program is only as good as the sum of its parts. Each faculty member has the professional responsibility to maintain a strong, independent and productive program.

It is the goal of the Department of Biology to achieve national recognition in "Ecology, especially the Ecology of the Northern Great Plains."

New faculty should be hired, when possible, to build on existing strengths and to promote interactions between research clusters.

Minutes: 12 November 1980

B. Research Committee

A Research Grants Committee was established in 1968 and replaced in 1969 by a Research Grants Advisor. The latter was functional only in 1969-70. The present committee was established in 1981. Its duties are described in Chapter I, section B-3.

C. Research Grant Proposals

When a faculty member is in the final stages of preparing a grant proposal, the faculty member should notify the departmental chairperson that a proposal is being prepared and approximately when the final copy will be finished. All grant proposals, whether they require the signature of the departmental administrator or not, shall be submitted to the departmental chairperson for review three days prior to the deadline for submission. The chairperson shall read the proposal and offer suggestions relating to scientific accuracy, clarity of expression, and/or editorial consistency. In particular, the chairperson shall view carefully all statements concerning facilities available and commitments of the department. The chairperson's signature on the application, or, if the chair's signature is not required, a memorandum to the faculty member, shall constitute agreement with commitments made in the proposal and a willingness to permit acceptance of a grant, if offered. After all signatures have been obtained, a signed copy of the proposal shall be delivered to the department chairperson for inclusion in the faculty member's (or the principal investigator's, if more than one faculty member is involved) personnel file.

If negotiations occur on the proposal, a copy of any modifications shall be placed in the faculty member's personnel file.

Minutes: 18 September 1968, 2 March 1984.

D. Research Faculty Members

Research faculty members are appointed for two years. Initially, recommendation for appointment is made by the chairperson following a vote of the faculty. Reappointment

recommendations may be made by the chairperson following review by the Executive Committee.

Minutes: 22 November 1982

E. Depositing of Publications

The department chairperson shall maintain a collection of publications of the faculty, post-doctoral researchers and students in the department. One copy of each article and book written while the individual was on the faculty or staff or was a student in the department shall be provided to the chairperson as soon as copies are available. In addition, publications based upon work undertaken while in the department but completed later elsewhere shall also be provided.

This publication record is an archival one; these publications are not for loan or other use of similar nature. All publications shall be stored in lockable cabinets in the departmental office or conference room.

Minutes: 2 March 1984

VIII. RESOURCES AND SERVICES

A. Facilities

1. Starcher Hall

The principal facility for the department is Starcher Hall, completed in 1981. Biology occupies 58,000 sq. ft. in Starcher Hall. Specific facilities in this building include the departmental office, the Alumni Conference Room, a seminar-lecture room, 10 teaching laboratories and associated preparation areas, stockroom, animal quarters, biology core molecular facility, data analysis room, plant tissue culture lab, animal tissue culture lab, herbarium, invertebrate museum, vertebrate museum, 3 greenhouses, 17 faculty offices, 16 faculty research labs and 5 graduate student offices.

2. Chandler Hall

Auxiliary facilities for the maize genetics research project are located in Chandler Hall.

3. Biology Field Stations

In association with the University, the Biology Department manages 2 field stations – the Forest River Biology Area and Oakville Prairie. It also has access to and use of old fields associated with what is called the Air Base land. On June 21, 2007 the University of North Dakota established The Biology Field Station Operation and Management Policy which governs the management and use of these sites (Appendix I).

4. Collections

The department has three facilities to house specimens that are representative of the flora and fauna of the state and region: an herbarium, an invertebrate museum and a vertebrate museum. The primary mission of these collections is as research collections, with recognized use in teaching as necessary.

The department chairperson is authorized to assign one, ½ time GTA to each of the following: herbarium, invertebrate museum and vertebrate museum. Such GTAs may have teaching duties in addition to curatorial duties.

Minutes: 12 November 1980; 16 April 1982

a. Herbarium

The herbarium contains botanical specimens of extant vascular and non-vascular plants and fossils. There are over 16,000 vascular plant specimens, several hundred non-vascular plants (mostly fungi) and approximately 50 fossils. Housed with the herbarium is the Vera Facey Botanical Reference Collection. In addition to the

library donated by Dr. V. Facey, there are references on loan from the library, as well as additional materials donated to the collection.

b. Invertebrate Museum

The Invertebrate Museum has four main groups of collections: the Rohde Shell Collection, which consists of about 3,500 shells, primarily marine, a collection of non-insect invertebrates comprising about 4,000 specimens; a world-wide collection of ants numbering more than 10,000 collections and 300,000 specimens; and the insect collection which, exclusive of ants, has about 30,000 specimens. Associated with the invertebrate museum, but separately housed, is a parasite collection of about 1,000 specimens. The Neal Weber Library, a valuable collection of books and reprints on social insects, is housed in a room adjacent to the Invertebrate Museum.

c. Vertebrate Museum

The Vertebrate Museum occupies about 1200 square feet in Starcher Hall. In addition to the museum proper, there is a small preparation room with facilities for study of skin preparation and skeletonizing of vertebrates. The museum currently houses cataloged specimens of approximately 600 amphibians and reptiles, 1300 birds, and 2400 mammals. Specimens of several threatened or endangered species are housed in the collections. The museum also houses a collection of study skins and taxidermy acquired from a pioneer North Dakota naturalist, H. V. Williams, during the 1960's. A portion of this collection has been recently loaned to the Myra Museum of Grand Forks for development of a display on wildlife of the Red River Valley.

The museum routinely provides teaching specimens for a variety of biology courses and houses specimens acquired through student and faculty research. Loans of specimens are made to investigators from other institutions, and occasionally donations of dateless material are made to regional schools and nature centers. Tours have been occasionally conducted for school groups or other organizations. The museum has also provided specimen identification services for other agencies and the general public and has provided assistance to wildlife enforcement agencies.

Beginning in 1998, office space was provided for two retired faculty members at the back of the vertebrate museum.

5. Fisheries Research Unit

The organization for fisheries research under this agreement shall be known as the North Dakota Fishery Research Unit, housed in the Biology Department, University of North Dakota.

The research will be done through the Unit by members of the biology faculty and/or by graduate students.

The purpose of formally designating the North Dakota Fishery Research Unit is to recognize, acknowledge and confirm the existence of cooperative activities between the North Dakota Game and Fish Department and the University that have been underway for several years. Formal designation of the de facto cooperative research effort will be of material assistance in advancing the objectives of research from the standpoint of the University and the Department and will be of professional advantage to members of the Unit and Department.

The primary functions of the North Dakota Fishery Research Unit shall be:

a. to conduct research projects in fishery biology

b. to implement, conduct and supervise graduate programs in fishery research under current Biology Department and University regulations.

No change in the role of the University being responsible for supervision of graduate students is intended or implied by this agreement.

Policy for the Unit shall be established by a coordinating committee comprised of Deputy Commissioner, North Dakota Game and Fish Department; Chief of Fisheries, North Dakota Game and Fish Department; Dean of the College of Arts and Sciences, University of North Dakota; Dean of the Graduate School, University of North Dakota; Unit Leader, Biology Department, University of North Dakota; and Chairperson, Biology Department, University of North Dakota. In addition the coordinating committee shall:

a. select research projects for investigation, utilizing to the maximum the advice and counsel of the Department so that immediate and long range conservation and management objectives of fisheries and water resources in North Dakota may best be served.

b. insure that the Department and the University will cooperate to the maximum in their efforts to obtain grants and funds for the North Dakota Fishery Research Unit in order to support their joint objectives.

Loans of equipment such as vehicles, storage space, boats and nets may be made by mutual consent and personal assistance may be given from time to time, on an informal basis.

This agreement may be amended or terminated at any time by mutual consent.

6. Equipment

Various modern pieces of equipment are available within department for research and learning purposes.

7. Library Holdings

Books and periodicals in biological disciplines are housed primarily in the Chester Fritz Library, but many others are in the Harley French Medical Library. Book holdings are estimated at 11,000 volumes, exclusive of the Medical Library books, while the number of active biology periodicals is currently 158 (inactive estimated at 373). Through request of the Biology Department, approximately 75 books are added annually.

B. Facility Use

1. Animal Care Facility

Approximately 25% of the animal holding facilities, as well as other rooms that are subsequently developed as organism holding facilities, will be reserved for maintenance of animals for teaching purposes. The remaining 75% will be allocated for research projects on the following priority basis:

1. External funded research by faculty that also enhances graduate and undergraduate training*
2. Externally funded research by faculty that does not involve graduate or undergraduate training
3. Non-funded research for faculty**
4. Long-term storage of non-animal materials

*Use of facilities by multiple faculty for collaborative projects or shared equipment use will enhance the priority
**A shift from externally funded to non-funded research occurs when additional external funds for continuing the research are not obtained, normally within a 2 year period.

Minutes: 22 March 2002

Only the times when research investigations require less than 75% of the facilities will additional space be allocated for organisms needed in teaching (in the Department of Biology or any other department on campus).

The use of special function animal quarters rooms (e.g., quarantine, autopsy/surgery, and observation rooms) will be assigned on a short-term basis according to specific needs and may deviate from the 25-75% teaching- research breakdown above.

Space allocation is the responsibility of the animal quarters supervisor in consultation with the departmental chairperson. Use of the facilities for funded research by persons outside the Department of Biology will be considered on a case by case basis by the facility supervisor and the chairperson.

Minutes: 12 November 1980; 22 March 2002

2. Data Analysis Room

A single full-time faculty member, appointed by the chairperson is to act in an advisory and supervisory capacity for the Data Analysis Room and the equipment associated with it.

The equipment and supplies purchased for and housed in the data analysis room shall not be removed from the room unless approved by the faculty member in charge. Borrowed equipment may be used only on a temporary basis (1-2 weeks).

The equipment in the Data Analysis Room is to be used only by biology faculty, students or others sponsored by the department.

Utilization of the data analysis equipment for instruction should be scheduled with the faculty member in charge at least one week prior to planned usage.

Minutes: 4 March 1982

3. Greenhouse Policy

Approximately 25% of the greenhouses will be reserved for the maintenance of plants for teaching purposes. The remaining 75% will be allocated for research projects on the following priority basis:

Priority List
1. Externally funded research by faculty that also enhances graduate and undergraduate training*
2. Externally funded research by faculty that does not involve graduate or undergraduate training
3. Non-funded research by faculty**
4. Long-term storage of non-plant materials

*Use of facilities by multiple faculty for collaborative projects or shared equipment use will enhance the priority.
**A shift from externally funded to non-funded research occurs when additional external funds for continuing the research are not obtained, normally within a 2 year period.

Minutes: 22 March 2002

Only at times when research investigations require less than 75% of the facilities will additional space be allocated for organisms needed for teaching (in the Department of Biology or any other department on campus).

The greenhouses will be used primarily for the growth of plants. Exceptions may be made by the chairperson of the department or a majority vote of the faculty.

At the beginning of each academic year it will be the responsibility of the Greenhouse Supervisor to solicit new space requests for usage of the greenhouse and preparation area for the coming year. These will be acted upon by the end of the second full week of classes. Special short-term requests will be considered as needed during the year. Since space assignments are ultimately the responsibility of the department chairperson, all decisions concerning space will be made in consultation with the department chairperson. Following approval of this policy all existing space allocations shall be confirmed in writing by the chairperson to the greenhouse supervisor.

No personal plants or other materials will be kept in any form in the departmental greenhouse facility.

The departmental greenhouse facility may be used for studies involving radioactive labeling following approval by the greenhouse supervisor, department chairperson, and other appropriate university-level committee (s).

Minutes: 13 December 1971; 12 November 1980; 12 September 1983

4. Guidelines for Greenhouse Use

a. Access
    1) Chairperson
    2) Greenhouse Supervisor
    3) Greenhouse Technician and weekend aide
    4) Appropriate faculty and aides
    5) Stockroom Manager

b. Space Allocation

    1) Greenhouse - as assigned based on departmental policy
    2) Greenhouse Preparation Room - Not normally allocated for faculty/graduate student use. Use of plant carts (requested in advance) and assigned by supervisor - allowed. Growth chambers as assigned; if the chamber belongs to faculty member, permission to keep in headhouse necessary from department chairperson.

c. Plants

    1) The greenhouses are to be used for departmental or research plants only. No personal plants are allowed.

    2) Plant positioning: Every attempt should be made, whether by pruning or positioning, to keep plant habit within the confines of each bench. This is necessary to prevent undue transfer of insects from bench-to-bench and greenhouse-to-greenhouse by technician or assistants during daily waterings, etc. Also included are plants grown on the greenhouse floor. These should be

positioned allowing space between mature plants for free access for watering, sweeping, etc. and so that insect transfer be minimized.

d. Maintenance

1) Systems (departmental)

All greenhouse (departmental) systems shall be "maintained" by the greenhouse technician where possible. Ordering parts shall be the responsibility of the technician through greenhouse funds. Preventive maintenance shall be carried out on an ongoing basis by the greenhouse technician.

2) Systems (faculty)

The systems and equipment of each individual faculty member shall remain the responsibility of the individual. Technician assistance in maintaining/operating this equipment shall be at the discretion of the technician and should be requested in writing to the greenhouse supervisor if the technician deems appropriate - at other times, oral requests will suffice.

3) Cleaning

Headhouse and greenhouse cleaning shall be the responsibility of the technician (except that normally handled by custodians). Cleaning of other areas shall become the responsibility of the faculty member assigned to them.

4) Plants

Maintenance of the teaching collection and other departmental plants shall be the responsibility of the greenhouse technician. Research plants may be maintained by the technician only if requested by faculty member - such requests should be in writing and include complete instructions as to watering, feeding, re-potting, and pest control. Plants on carts are considered the same as research plants.

5) Chemicals

All spraying, drenching, systemics, etc. for control of insects and disease shall be the responsibility of the greenhouse technician, and shall be carried out at his discretion. Since the nature and degree of these problems varies by season and plant susceptibility, communication/consultation between the technician and faculty should be frequent to maintain plant health and proper growth. The greenhouse technician shall be responsible for proper notification of dangers, safety procedures, disposal, etc. for chemicals used, as per federal regulations. Chemicals (excluding fumigators) having an LD_{50} of less than 500 normally will not be used in the greenhouse facility to help preserve the safety of all associated with the area.

6) The responsibilities of the greenhouse technician are primarily with the greenhouse and field stations. Other duties or jobs in the department requiring

more than 30 minutes (based on judgement of the greenhouse technician) will require approval by the greenhouse supervisor. Faculty may request approval from the department chairperson when the greenhouse supervisor is absent or when the request has been denied.

e. Materials

All materials obtained with greenhouse funds by the greenhouse technician shall be dispensed at the discretion of same, and remain the property of the greenhouse unless arrangements are made (in advance) to replace or reimburse said materials. Projected usage by faculty should be submitted (in writing) when requested by greenhouse supervisors, said requests occurring each spring at the time supply requests are solicited. Unforeseen usage will be handled as greenhouse materials/funds allow on a first come - first serve basis. Projected usage shall include soil and soil additives in addition to hardware.

f. Inventory

Inventory of greenhouse equipment and materials shall be the responsibility of the greenhouse technician and "counts" shall be made in early spring of each year in order that supply acquisition need not be delayed.

Minutes: 12 September 1983

5. Stockroom

The stockroom is the centralized location for supplies and equipment. All items will be checked out from that room. Items of general interest will be inventoried in that room and loaned out to staff members on a temporary basis. Permanent loans will be made rarely and only if there is not another claim for the items.

The stockroom is to be manned and open while laboratories are in session.

Minutes: 18 March 1964; 7 July 1967

C. Services

1. Camera Loan

Department cameras may generally be borrowed (from the stockroom) for a maximum of ten consecutive days.

Minutes: 2 October 1975

2. Copying (Current copyright laws must be followed)

Copy services are available for departmental personnel at the following locations:

1) Duplicating Services (most economical)

   a. A *Copy Request Form* must be filled out and accompany the project.

   b. Duplicating Services requires a three-hour minimum turn-around time for completion of a project (from the time it reaches their office).

2) Convenience Copier Machine located in Starcher Hall room 102

   a. The Aconvenience@ copy machine, is accessed by inputting a 4-digit access code. Access codes are assigned to each faculty member, facility or course as needed. Office personnel are authorized to set up access codes.

   b. Normally, the convenience copier should be used when fewer than 10 copies are needed.

   c. Faculty will do their own copying of materials, including class materials.

   d. Faculty sharing their access code with graduate student advisees will be responsible for the costs associated with his/her access code.

   e. Cost per copy is set annually by Duplicating Services.

   f. There will no no copying of reprints or journal articles except:
      1. Charged to research grant
      2. Exclusively to be used for class purposes and essential to that class.

   g. Each individual with an access code will receive a monthly statement of usage. They must then provide a breakdown of charges (per allocation/class/facility) or provide a grant number to be charged.

3. Departmental Property

All items of equipment and supplies ordered by the Biology Department from funds allocated to the Biology Department are for the use of all staff members of the department and in all courses of the department.

Equipment purchased on research grants becomes the property of the Biology Department. These items shall be on permanent loan to the individual involved as long as he or she shall remain at the University. Requests for use of this equipment shall be directed to the staff members involved.

Minutes: 18 March 1964

4. Key Assignment

1. Staff Members - Regular staff members will be authorized keys to the facilities in which they work. In addition, the chairperson, stockroom manager, full-time office staff, and greenhouse technician each have a submaster.

2. Graduate Students - GTA's will be authorized keys to specific teaching facilities on recommendations of the individual in charge of the facility. All graduate students will be authorized outside doors, corridor door, copy room, conference room and specific office/lab door keys.

3. Undergraduate Assistants - Undergraduate students will be authorized keys to specific teaching facilities on the recommendation of the individual in charge of the facility and approval of the chairperson.

Note: Current university policy states that individuals can be issued only one key to each room.

Minutes: 16 December 1982

5. Use of Departmental Office Equipment

Use of departmental office equipment by the secretaries or others after office hours for the typing of theses, reports and personal projects for non-faculty members is prohibited, except in unusual circumstances and only with the authorization of the chairperson.

Minutes: 3 February 1968

D. Wheeler Lecture Series

The lectureship program will be a continuing one and it will be designated the George C. Wheeler Lectureship series.

The Executive Committee plus the Seminar Coordinator will serve as the selection committee for the Wheeler Lectureship.

Selection Procedures and Criteria:

1. The Seminar Coordinator will solicit nominations from the Biology Faculty for a Wheeler Lecturer. Normally, this solicitation will occur once each year, early in the spring semester.

2. Nominations will consist of a letter detailing the individual's education, experience, accomplishments, and a list of most important publications, not to exceed eight.

3. The Seminar Coordinator will assemble the nominations and make them available for review by the selection committee (Executive Committee plus Seminar Coordinator).

4. The selection committee will evaluate the nominees by three standards: 1) quality of accomplishments, 2) recognition by peers, and 3) relevance to the department's programs.

5. In making the selection, the area of specialization may be considered so that a diversity of disciplines is represented through time.

6. The committee will select a nominee and an alternate. The Seminar Coordinator will extend a written invitation giving preferred dates. Whenever possible, the lectures should be scheduled for the fall semester.

7. If the nominee is unavailable, the alternate may be invited.

8. Once an individual has accepted the invitation, nominations of others will be returned to their nominators by the Seminar Coordinator.

Minutes: 30 October 1968; 20 November 1968; 30 April 1986; 27 October 1986.

IX. FISCAL AFFAIRS

A. Air Base Land Income

Based on the "Biology Field Station Operation & Management Policy" adopted by the University of North Dakota on June 21, 2007 (Appendix I), the use of income generated by the Air Base Land is to be used for:

1. Reimbursement to the University of North Dakota for land acquisition
2. Maintenance (including signs, or other services) and operation of the field stations, and
3. Research and educational expenditures as recommended by the University Field Station Committee and approved by the Vice President for Finance and Operations.

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B. Biology Awards Program Fund

The Biology Awards Program Fund is established and the chairperson is authorized to solicit donations to the fund.

Minutes: 10 May 1984

C. Biology Department Enhancement Fund

The money in this fund will be invested and all responsibility for the dispersal of income from the fund's investments rests with the chairperson.

Minutes: 10 May 1984

D. Cost of Program Funds

Cost of Program funds returned to the department from fellowship/traineeship programs shall be used to enhance the department's overall posture in research and graduate education. The Cost of Program funds returned to the department shall be used for tuition and registration fees and the remainder divided equally between the faculty who submitted the fellowship proposal and a departmental pool to support departmental graduate student research. The funds returned to the faculty shall be used for research and enhancement of the graduate program. The faculty receiving the funds shall provide to the department chairperson an annual report on the use of the funds by the end of the fiscal year. The departmental pool funds shall be administered by the department chairperson.

Minutes: 12 December 1983

E. Indirect Cost Rebate

1. General Guidelines and Procedures

Indirect Cost monies returned to the department shall be used to enhance the department's overall research quality. The monies returned to the department shall be divided between the Principal Investigators (P.I.s) whose grants generated these monies and a departmental pool. One half of the rebated funds generated by the grant of a departmental P.I. (or P.I.s) shall be returned to that P.I. (or P.I.s) and the remaining half shall be placed in the departmental pool. The funds returned to the P.I.s shall be used for research.

The chairperson should, upon receiving an Indirect Cost budget from the Administrative Assistant at the beginning of the fiscal year, notify the Research Committee of the maximum possible research budget. The Research Committee will meet with the Department Chair early in the Fall Semester to set the budget for the academic year, including new faculty start-up needs, funding for the seminar program, other special needs, and the amount of funds to be held in reserve. The remainder of the funds will be used for support of faculty initiatives. A primary goal of the support of faculty initiatives should normally be to enhance research funding in the department, since such funding is essential for continued faculty research productivity and undergraduate/graduate training.

Recommendations on the expenditure of the pool funds will be prepared by the Research Committee, a three member standing committee, and reviewed by the Chairperson. A joint memo from the Chairperson and the Committee will then be sent to applicants informing them of funding decisions.

Under no circumstances should funds be used to pay for items historically paid for by Arts and Sciences, e.g. interview funds, Wheeler Lecturers, etc.

2. Applying for Research Funds

The Research Committee will meet up to three times per year, at times which will be standardized and publicized within the department, to consider requests of faculty.

Submit (in order and no more than 3 pages):

1) Previous awardees must submit a statement of the results from their most recent support for an individual initiative from the Research Committee, including the expenditures of their award (in general), papers published and if any outside grants were submitted/funded as a result of the award.

2) Project description, including how the project relates to the Research Committee funding priorities and the potential for additional external support

3) Budget and brief justification

4) If appropriate, specify potential outside funding source and timetable for grant submission

3. Funding Priorities

Ranked priorities for funding of faculty initiatives by the Research Committee will normally include:

1) Research related requests –

Multiple Faculty requests: for equipment or other initiatives that will enhance the research competitiveness of multiple and collaborating faculty, with the ranked priority in support being: productive faculty with a recent funding history, productive faculty with no recent funding history, and faculty with no recent productivity or funding history. Collaborative initiatives will have a higher priority over simple multiple faculty requests.

Individual faculty request**:** for equipment or other initiatives that will enhance the research competitiveness of individual faculty, with the ranked priority in support being: productive faculty with a recent funding history, productive faculty with no recent funding history, and faculty with no recent productivity or funding history.

2) Faculty research-related travel

3) Other needs as deemed appropriate by the Research Committee and the Chair.

Tenure-track faculty will have funding priority over non-tenure track faculty.

The grant timetable for expenditure of research funds will normally be 18 months. Extensions will be considered with strong rationale. At the end of the 18 month period, the PI will be notified that the unexpended funds have been returned to the departmental research pool.

Under emergency conditions, i.e. where there is a need to act before the next scheduled committee consideration of requests, the chairperson is authorized to act without advice on requests for up to $500 per year per faculty member.

Minutes: 11 December 1981; 21 September 1983; 23 April 2008

F. Research-Related Expenses

In 1980 the Executive Committee allocated each faculty member $50 from the supplies budget for research-related expenses. In addition to research supplies, these funds are the source of monies to meet page and illustration charges as well as reprint

purchases. Although this policy was in effect for only one academic year, each succeeding chairperson has perpetuated it with the allocation currently $100. In 2003, the chairperson began allocating $500 each year from appropriated money to every faculty member for their discretionary use and this has been continued.

Minutes: 2 October 1980

G. Use of Invested Funds

The principal of invested Biology Department funds shall not be used.

Minutes: 13 December 1985

X. STUDENT REGULATIONS AND PROGRAM ASSESSMENT

A. General

1. Guidelines for Directed Studies

a. The permission of a Biology instructor is required prior to enrolling.

b. The instructor, upon consultation with the student, will determine whether the latter has the necessary prerequisites and whether the student is to be accepted for work under his/her direction.

c. Prior to undertaking a Directed Study a student must have had at least one advanced undergraduate course related to the study. This course may be a prerequisite were the Directed Study offered wholly or in part as a formal course. It may also be in a cognate field or related discipline. The relevancy of the preceding is to be determined by the instructor.

d. The usual credit load for 494 Directed Study is 2; beyond this the student is advised to enroll in a formal course carrying 3 or 4 credits. At the 592 level the credits are to be determined by the instructor. However, should a formal course be offered in the same area the student is advised to enroll in the course rather than undertake a Directed Study.

e. Each student accepted for a Directed Study should set up a regular work schedule for at least part of the project time to ensure assistance at a time convenient for both the student and the instructor. Directed Studies require an average of three hours application per week for each credit attempted.

f. The satisfactory completion of a Directed Study involves criteria determined by the instructor and discussed with the student at the beginning of the study. An incomplete is to be given only under the regulations set by the University.

g. Ordinarily, examinations are not required for Directed Studies unless they have assumed the nature of a formal or semi-formal course. The instructor will set the requirements for evaluation purposes. These should be met by the student on or before the last day of the examination period of the semester or summer session in which the student is enrolled.

h. A Directed Study may take on the nature of a formal or semi-formal course when it is specifically listed by subtitle in the University Time Schedule for the semester or summer session. Furthermore, it may become so, should the instructor decide that regularly scheduled laboratory, field, lecture and/or discussion periods are a necessary part of his/her Directed Study.

Minutes: 30 March 1966

2. Specimens from Student Research

Representative voucher specimens collected by the faculty, students, or their representatives as part of funded research or graduate studies shall be deposited in one of the departmental research collections. It is the responsibility of the faculty supervisor of each student to consult the curator about preparation and disposition. Additional specimens may be deposited if satisfactory arrangements are made between the curator and the faculty member or student.

Minutes: 28 September 1966; 16 April 1982

B. Student Awards

1. Edith Larson Award

The interest from the principal invested in the Edith Larson Award Fund will be used for an award to an outstanding undergraduate biology major on the basis of academic excellence and need. Selection will be made annually by the Academic Programs and Student Awards Committee. The amount of the award will be left to the discretion of the department chairperson.

Minutes: 30 April 1986

2. Floyd Hunter Award

The interest from the Hunter Memorial Fund shall be used to award a scholarship to an undergraduate biology student enrolled at UND. The monies shall be used to defray the costs for attendance at an inland or marine biological station.

The award shall be based on scholastic achievement and at least two letters of recommendation from the faculty.

The Academic Programs and Student Awards Committee shall solicit nominations from the biology faculty each spring.

Minutes: 4 May 1976

3. Glenn Allen Paur Memorial Award

Interest from the Paur Trust Fund shall be used to make an annual award to a student in the biological sciences who shall be a junior or senior at the time of receiving the award.

Criteria for selection shall be clear evidence of promise and dedication in the field of study, and relative need. Preference shall be given to students who are natives of North Dakota and who are also in wildlife biology. An outstanding student may receive the award more than once.

A faculty committee of the Biology Department shall make the annual selection.

Minutes: 31 October 1978; also from document establishing the trust fund.

4. Outstanding Graduate Student Research Award

This award is to recognize that graduate student who, in the opinion of the faculty, performs the most outstanding research during the period July 1 to June 30.

Each spring the Academic Programs and Student Awards Committee will study the credentials of students recommended by various faculty members, select and present outstanding candidates to the Biology Faculty for their action.

The award will consist of the interest on the principal of $600.00 plus any other funds available.

If in the opinion of this committee and of the faculty, none of the graduate students have performed outstanding research in any year, the accrued annual interest shall be added to the principal of the fund.

Minutes: 1 October 1971; 11 May 1973

5. Marjorie Behringer Award

This award is to recognize the individual who achieved the highest combined scores in Biology 150, 150L, 151 and 151L during the previous academic year.

The Academic Programs and Student Awards Committee will solicit nominations from the several lecturers and laboratory coordinators. The Committee will determine the outstanding achiever and recommend the award to the faculty.

An endowment fund is hereby established. Funds in the endowment may be pooled with the Biology Awards Program Fund with interest to be used to cover the award. Unused interest may be applied to expenses of the Biology Awards Program Fund.

The award will consist of a cash award determined by the Alumni Foundation and a certificate. In addition, each winner will have his/her name engraved on a plaque that will be displayed in Starcher Hall.

This award was named after Dr. Marjorie P. Behringer, a member of the faculty and introductory course coordinator from 1966 until her retirement in 1978.

Minutes: 23 November 1987

6. Joe K. Neel Memorial Endowment in Limnology and Aquatic Invertebrate Zoology

This endowment was established in 1991 to recognize the contributions of Dr. Neel to the University of North Dakota Biology Department from 1966 until his retirement in 1981.

The interest income should be used each year for an award to a graduate student in the Biology Department who is pursuing thesis or dissertation research in the two main fields of Dr. Neel's expertise, limnology and aquatic invertebrate zoology. Specifically, the funds will be used to enhance graduate recruitment and graduate training in these areas by providing the Joe K. Neel graduate research fellowship in limnology and aquatic invertebrate zoology. The amount of the annual award will be based on the availability of funds and will provide up to $3,000 to support both the research and living expenses of the graduate student.

Each Spring, APSAC will solicit nominations from the faculty in a timely manner for graduate recruitment. Nominations can come form either the pool of current graduate students or students being considered for acceptance to the graduate program. The possibility will exist for offering the award to either a current or perspective graduate students for more than one year, given satisfactory performance. An M.S. student will be eligible for up to two awards during their graduate career, while a Ph.D. student will be eligible for up to three awards. Potential candidates will be evaluated and selected from the group of nominees. Performance will be given to Ph.D. students in the evaluation process.

Minutes: 22 January 1991; March 2, 2002

7. Esther Wadsworth Hall Wheeler Award

The award was established by the Wheeler family in 2000 to assure that Esther Wadsworth Hall Wheeler's contributions to the Biology Department during some of it's most difficult times during the depression were not lost to the institutional memory. The award is dependent on annual donation of funds by the Wheeler family. Nominees are solicited by the Chair of the Department and the award is presented to a current graduate student to support his or her research project.

C. Scholarships

1. Stella H. Fritzell Memorial Scholarship

The scholarship will be known as "Stella H. Fritzell Memorial Scholarship."

The award should approximate the annual earnings of an endowment. The amount of the award probably should be rounded to the next lowest $50 or $100; the remainder being returned to the corpus. If no qualified awardee can be identified, the annual earnings should be added to the corpus.

The award should be given to an undergraduate or graduate student in alternate years (i.e. given annually but alternately to a grad or undergrad).

The awardee should have an outstanding record in field biology and an interest in and knowledge of governmental affairs in environmental or natural resource management.

Minutes: 7 May 1984

2. Curtis R. Malm Memorial Scholarship

An endowment has been established in the University of North Dakota Foundation to provide an annual award to an undergraduate student in the Biology Department who is majoring in the fisheries and wildlife curriculum and who is interested in pursuing a career in this field of endeavor.

To qualify, students shall have a positive attitude, be dedicated to achievement, and be of good moral character. The donor wishes preference for financial need and scholastic attainment.

The committee for selection will consist of the faculty advisors for Fish and Wildlife majors in the department. The committee will solicit nominations from the department prior to April 7 of each year.

Minutes: 13 December 1984; 10 April 1992; also the scholarship agreement

3. Alven Kreil Memorial Scholarship

Established in 1993, in memory of Mr. Alven Kreil, this award is given to students that show outstanding potential as field biologists. Preference is given to students that have field experience and those with interest in presenting field-study results at the annual workshop of the Great Plains Fishery Workers Association.

The amount of this scholarship is $150 of interest and principle. The award(s) are to be given annually (given that suitable candidates exist) until the fund is depleted (10+ yrs). Recipients will be selected by a committee consisting of at least two UND, Biology Department faculty.

Minutes: 24 March 1993

D. Student Research Stipends

Stipend awards are intended to encourage and to promote student research in the biological sciences at the University of North Dakota by providing a supplemental source of funding for research-related activities.

Students, regardless of major, conducting research in biology with the supervision of a faculty member from the Biology Faculty shall be eligible for financial assistance offered by APSAC.

General guidelines for APSAC stipend award applications.

1) Applications for awards shall be solicited with specific deadlines during Fall and Spring semesters.

2) Applications must contain a brief statement of the rationale for the request as well as an itemization of the amount requested.

3) Applications must be accompanied by a supporting letter from the faculty advisor.

4) Applications and/or supporting letters from faculty advisors must demonstrate that attempts were made to obtain the requested funds from other sources.

5) Applications shall be considered only from currently enrolled undergraduate and graduate students in biology.

Expenses directly related to research shall be eligible for support under the following guidelines:

1) Research equipment and supplies

2) Research travel expenses

3) Undergraduates shall be eligible for a maximum non-renewable award of $200, inclusive of research and travel to professional meetings

4) Master's candidates shall be eligible for a maximum non-renewable award of $350, inclusive of research and travel to professional meetings.

5) Doctoral candiates shall be eligible for a maximum non-renewable award of $550, inclusive of research and travel to professional meetings.

6) Graduate students in biology not enrolled in a degree program shall be eligible for a maximum non-renewable award of $200 for research travel, equipment and supplies only; travel to professional meetings will not be supported

7) APSAC, and the Biology department, realize that the levels of funding available for students are not sufficient to support an entire research project. Graduate students are strongly encouraged to apply for outside sources of funding to support their research. We encourage students to check with the Biology Stockroom for research supplies that may be available at a reduced cost. For travel costing more than the maximum award available from the department, we encourage students to check with the Biology Department Chairperson , who may have more funds available, and to check with the Graduate School Office with the Office of Research and Compliance. Additional travel funding hasa been available from these sources in the past.

Expenses related to travel to professional meetings shall be eligible for support under the following guidelines:

1) When expenses for air travel are requested, support shall be considered for round trip coach airfare from Grand Forks, ND to the destination and it is expected that special rates shall be investigated.

2) Cooperative travel among students attending the same meetings will be encouraged and given priority.

3) In event of cooperative travel with a University vehicle, support to defrey the expenses of the University vehicle shall be awarded to the group rather than an individual.

4) Requests for lodging will be supported when financially feasible.

5) Individual student travel for those persons presenting oral or poster papers at professional meetings will receive highest priority for funding.

Guidelines for selection:

Research activities in biology eligible for support by APSAC shall be ranked in the following priority:

a. First time applications for: research supplies and research travel
b. travel for presentation of papers (oral or poster)
c. Subsequent applications for research supplies or travel to professional meetings that do not include presentations

Only in unusual circumstances should requests be made for funds from the graduate student research allocations to defrey expenditures previously committed by faculty or students.

The Biology Department expects acknowledgement of those awards in theses, dissertations, and publications where applicable.

Minutes: 27 May 1968; 23 January 1970; 10 May 1972; 9 February 1978; 9 March 1978; 27 February 1979; 8 February 1980; 22 November 1982; 2 March 1984; 15 February 1985; 13 December 1985; 9 May 1990; 3 March 2001.

E. Undergraduate Student Regulations

1. Advanced Placement

Students have the opportunity to obtain 8 credits for Biology 150 and 151 if they can perform adequately on the College Level Examination Program (CLEP) examination in biology. The recommended passing cutoff is the 50th percentile. The CLEP exam replaces earlier departmental challenge and placement exams.

Minutes: 1 March 1972

2. Course substitutions

Up to two life-sciences related courses from other departments at the University of North Dakota may be counted toward the 43 hour major, provided they do not overlap extensively with subject matter included in Biology Department courses also being used for credit
Minutes: 31 January 1983; 7 December 1994; 3 May, 2006

3. Duplication of Introductory Course Credits

Students who take Biology 111 and receive a grade of B or better shall be allowed to major in any of the Biology majors and to enroll in upper division courses. Because of the nature of the subject matter, Biol 111 should be substituted for Biol 151, rather than Biol 150.

Minutes: 2 February 1979

4. Repeating a Class

A student repeating a course having a laboratory must also retake the laboratory.

Under normal circumstances, a student will not be allowed to repeat a course for replacement of grade if both of the following conditions are met:

1) The student received a grade of C or better in the course to be repeated, and

2) The student passed a course for which the course to be repeated is a prerequisite.

Minutes: 24 January 1979; 7 December 1994

5. Satisfactory/Unsatisfactory Grading

The Pass-Fail (S/U) system of grading may be allowed in cognate areas for departmental undergradute majors.

Minutes: 22 January 1971

F. Undergraduate Program Assessment

The Biology Department adopted a detailed plan for assessment of the B.S. in Biology degree program for the following four potential areas of concentration:

General Biology
Molecular-Cellular-Developmental Biology
Pre-Health Sciences
Ecology and Evolutionary Biology

The detailed undergraduate program assessment plan is provided in Appendix V.

Minutes: 3 April 2006

G. Graduate Student Regulations

1. Admissions

a. Criteria

1) Requirements for all graduate programs:

a) A two-thirds "yes" vote for the applicant by the Graduate Faculty "in residence," is required except under unusual circumstances where it is agreed upon by the Graduate Director and the Chairperson that this requirement should be waived.

b) Admission to any graduate program in biology (M.S. thesis, M.S. non-thesis, Ph.D.) requires that at least one faculty member indicates a willingness to serve as the student's advisor. An indication of willingness to serve as an advisor should not be made lightly, as it will be considered a binding commitment to advising that student should they enroll**.** If there is a majority vote for admission but no advisor, the Graduate Director will request that the faculty re-examine the application and reconsider serving as the student's advisor.

c) The applicant must meet all the criteria for his/her program to be accepted. Ideally**,** students should be notified of their status no later than-April 15.

2) Masters degree (both thesis and non-thesis) applicants:

a) All applicants must meet current minimum general requirements as published by the Graduate School.

b) All applicants seeking admission to the biology graduate program must provide GRE General test scores and are recommended to provide GRE Subject (Biology) test scores. Successful applicants will be required to provide GRE Subject (Biology) test scores by the end of the first semester of enrollment. Strength of scores will be considered regarding admission and awarding of departmental support.

c) The GPA must be no lower than 2.75 for all undergraduate work or 3.0 for junior-senior credits.

d) Students must indicate thesis vs. non-thesis option upon application. M.S. (thesis) students may request a change to M.S. (non-thesis) only within the first 2 semesters (not including summer) of enrollment. Such requests will be evaluated by the Graduate Director and the student's advisory committee.

3) Doctoral degree applicants:

a) All applicants must meet current minimum general requirements as published by the Graduate School.

b) Applicants may enter the program with a Master's degree or directly with a Bachelor's degree.

c**.** All applicants seeking admission to the biology graduate program must provide GRE General test scores and are recommended to provide GRE Subject (Biology) test scores. Successful applicants will be required to provide GRE Subject (Biology) test scores by the end of the first semester of enrollment. Strength of scores will be considered regarding admission and awarding of departmental support**.**

d) The GPA must be no lower than 3.5 for the Master's degree work. If applying with only an undergraduate degree, the GPA must be no lower than 2.75.

Minutes: 11 September 1967; 29 March 1972; 14 October 1976; 4 February 1977; 12 November 1980; 6 November 1981, 4 February 1983; 1 May 1989; 21 February 1990; 17 September 1991; 6 February 1995; 12 May 2003; 2 May 2008

b. Deadlines

The deadline for completed applications to reach the Graduate School for guaranteed consideration for summer and fall admission is 15 February.

The deadline for completed applications to reach the Graduate School for guaranteed consideration for spring admission is 1 November.

Under exceptional circumstances, the Graduate Director may choose to place an application before the faculty for consideration past those deadlines.

Minutes: 14 October 1976; 2 May 2008

c. Master of Science By-Pass

Students admitted to the M.S. program, may, after one calendar year, and upon the recommendation of his/her advisory committee, request to by-pass the masters degree and work directly toward the Ph.D. degree. The same GRE and GPA requirements apply for by-pass as for students applying for the doctoral program and through normal application procedures, i.e., GRE scores averaging 60 percentile on the verbal and quantitative portions at the General test and a GPA no lower than 3.5 for work completed while in the M.S. program. The recommendation of the advisory committee shall be brought to a vote in a faculty meeting. A minimum of one week before such a meeting, the faculty shall be notified that the student's up-dated file shall consist of the materials used for application to the M.S. program, a transcript of all academic work completed at UND, and any additional materials the student wishes to have considered. An examination of equivalent nature to a M.S. comprehensive examination will be given by the student's advisory committee and, upon successful completion, the student may obtain admission to the doctoral program.

Minutes: 15 May 1972; 11 February 1976; 12 November 1980; 16 December 1982; 24 April 1984; 12 May 2003

2. Advisor/Advisory Committees

a. Appointment

The graduate student's advisor will recommend committee members to the Graduate Director who will have the power to approve or disapprove, using the Graduate School Committee appointment form.

Minutes: 2 May 2008

b. Change of Adviser

Changing advisers early in a student's graduate program should be an open, amicable and cooperative decision involving the current and proposed advisers, the Graduate Director and the Department Chair. Students contemplating such changes should visit with the Graduate Director about such procedures.

Minutes: 6 October 1965; 21 February 1990; 2 May 2008

c. Review of Student's Progress

The student's advisory committee should meet once a semester with the student to review progress in courses and research. An annual progress report will be prepared by the student and their committee using the annual review assessment form for M.S. or Ph.D. students (Appendix VI).

Minutes: 11 May 1971; 2 May 2008

3. Evaluations

a. Evaluation of Teaching

1) Teaching will be evaluated each semester the student holds a GTA using a standard University approved USAT form. Results from the USAT will be provided to the Graduate Director.

2) If a departmentally supported GTA exhibits serious neglect of duty, it should be reported immediately to the Department Chairperson and the Graduate Director.

b. Evaluation of Academic and Research Progress

1) Each year all graduate students will be assessed using the appropriate annual evaluation form for M.S. or Ph.D. students (Appendix VI). Students will provide the initial data to their advisory committee after which the student and committee will meet to complete and discuss the form. The student's advisor must submit the completed form to the Graduate Director by March 15th each year.

2) The thesis/dissertation proposal will be evaluated by the student's advisory committee using the thesis/dissertation proposal assessment form (Appendix VI). The completed form must be submitted by the student's advisor to the Graduate Director within a week of the proposal defense.

3) The comprehensive exam will be evaluated by the student's advisory committee using the comprehensive exam assessment form (Appendix VI). The

completed form must be submitted by the student's advisor to the Graduate Director within a week of the conclusion of the exam.

4) The thesis/dissertation and associated seminar and defense will be evaluated by the student's advisory committee using the three appropriate assessment form (Appendix VI). The completed forms must be submitted by the student's advisor to the Graduate Director within a week of the defense.

5) Faculty Input (Optional). Faculty who wish to comment on a particular student's performance, may do so in a signed letter/memo to the Graduate Director. Such input should be submitted by the end of the spring semester.

c. Dissemination and Use of Evaluation Results

a) The Graduate Director will compile all the evaluation materials.

b) The Graduate Director will summarize all current evaluation materials on graduate students for consideration when the faculty make recommendations regarding financial support.

c) If a graduate student receives an unsatisfactory evaluation, the Graduate Director will notify the graduate student and the major advisor in writing. The reasons why the evaluation is considered unsatisfactory will be provided. This notice will constitute a probationary warning.

d) All evaluation documents will be placed in the graduate student's file. The student will have access to the file (Family Rights and Privacy Act of 1974). Additionally, copies of all evaluation documents will be provided to the student, the major advisor, and the Graduate Director for program assessment purposes (see below).

Minutes: 22 November 1982; 30 October 1982; 13 May 1982; 31 January 1983; 2 May 2008

4. Examinations

The Biology Department has a long tradition of producing graduate students with a broad background in Biology. The purpose of comprehensive examinations is to provide assurance to the Department that our graduates possess such a background. Graduate students should view these examinations as an opportunity to increase their breadth of knowledge and demonstrate this breadth of knowledge to their peers.

a. Doctoral Comprehensive Examination

The doctoral comprehensive examination shall be extensive and searching, covering the broad areas of Biology. The exam will be administered by the student's advisory committee, plus one additional examiner appointed by the department chair, henceforth referred to as the Examining Committee, preferably no later than the end of the third year in the program and is required to be completed at least one semester prior to the anticipated semester of graduation. The examination will cover the major areas of Biology (following the organization of the GRE Subject test), including Ecology and Evolution, Organismal Diversity and Function, and Cellular, Molecular, and Developmental Biology. Evaluation will be based on the student's knowledge of the breadth of Biology, and deeper understanding of the student's field of research. Evaluation will employ a standard rubric (Appendix VI) with explicit recognition of appropriate depth of understanding. The doctoral comprehensive examination will have two components: a written exam and follow-up oral exam.

The number and nature of questions is left to the discretion of the examining committee, but the exam should encompass all the levels of understanding: knowledge, comprehension, application, analysis, synthesis and evaluation. Questions should be written so that the student clearly knows if a question is assessing breadth or depth and which levels of learning are being assessed. The exact breakdown of questions by area and level of understanding is left to the discretion of the committee, but each of the three major areas must be represented by at least 25% of the total.

Students will take the written portion of the comprehensive exam before taking the oral portion of the comprehensive exam. The Examining Committee will review the graded written answers and decide if the student has demonstrated an adequate level of knowledge and understanding of Biology before scheduling the oral examination.

The written exam will include questions intended to test (1) breadth of knowledge across levels of biological organization from molecules to ecosystems, including conceptual relationships among the levels, and (2) depth of knowledge and understanding within the student's field of research, including the ability to discuss relevant theories, controversies and unanswered questions.

The exam will be composed of questions requiring approximately 15-18 hours of writing. Students will have, at most, 20 hours to complete the written exam. Normally the exam will be conducted over a 3-day period (5-6 hours per day), but may be administered over a maximum of 5 days.

The student may be given a choice of questions to answer within each area, but that is at the discretion of the examining committee.

At the discretion of the examining committee, questions may be based on reading material provided prior to the exam and test the student's ability to read critically, synthesize and analyze knowledge within the student's field of research. The exam will normally be graded within 2 weeks (maximum 3 weeks).

The oral examination is intended to further probe the student's understanding of material covered in the written exam, with emphasis on the student's field of research. The exam may take up to 3 hours and will normally be held within 7 days of completion of the grading of the written exam.

The Examining Committee will consider the totality of results from both the written and oral portions of the comprehensive exam to determine if the student passes the comprehensive exam. The student must demonstrate adequacy in all areas to pass the exam, but failure in one or more areas can be revisited later by retaking either or both components (written, oral) of the exam either in its entirety or for those deficient areas at the discretion of the examining committee. Only one reexamination is permitted.

Minutes: 8 February 1967; 15 February 1967; 19 April 1967; 19 May 1971; 1 May 1973; 18 March 1976; 6 May 1976; 12 October 1979; 2 October 1980; 4 February 1983; 12 September 1983; 10 May 1984; 15 February 1985; 13 December 1988; 25 April 2007; 2 May 2008

b. Masters (thesis) Comprehensive Examination

An oral comprehensive examination will be administered by the student's advisory committee in the second full year and at least one semester prior to the anticipated semester of graduation. The examination will cover the broad area of biology. The student's advisory committee will assess the exam using the Comprehensive Exam Assessment Rubric (Appendix VI). The completed rubric will be provided to the Graduate Director within one week of the exam**.** The results of the examination will be communicated to the department chairperson and the Graduate School.

Students failing the examination may be reexamined by the advisory committee, but prior to the anticipated semester of graduation. A failed examination may be retaken once only. Areas of weakness in the comprehensive examination may be re-examined during the thesis defense at the discretion of the student's committee. The student must be informed which areas will be re-examined at the conclusion of the comprehensive exam.

Minutes: 18 March 1976; 12 October 1979; 13 December 1988; 2 May 2008

c. Masters (non-thesis) Comprehensive Examination

A written comprehensive examination will be administered by the student's advisor and two other faculty members selected by the student with the concurrence of the advisor, the faculty members involved and the department chairperson at least one semester prior to the anticipated semester of graduation. The examination will cover the broad area of biology. The examining committee will assess the exam using the Comprehensive Exam Assessment Rubric (Appendix VI). The completed rubric will be provided to the Graduate Director within one week of the exam. The results of the examination will be communicated to the department chairperson and the Graduate School.

Students failing the examination may be reexamined by the advisory committee, but prior to the anticipated semester of graduation. A failed examination may be retaken once only.

Minutes: 8 February 1967; 15 February 1967; 19 April 1967; 19 May 1971; 1 May 1973; 18 March 1976; 6 May 1976; 12 October 1979; 2 October 1980; 4 February 1983; 12 September 1983; 10 May 1984; 15 February 1985; 13 December 1988; 2 May 2008

5. Financial Support

a. Guidelines

The department recognizes the importance of providing financial support, whenever possible, to graduate students pursuing advanced degrees in biology.

It is necessary to provide funding for new graduate students entering the department to maintain an ongoing graduate program.

Departmental support may be provided to qualified students for their degree program, depending upon the availability of funds. Normally support is awarded on the basis of a majority vote of the faculty. Under unusual circumstances, on the advice of the Graduate Director, the chairperson may award support without such a vote.

Departmental financial support is defined as graduate teaching assistantships (GTA), tuition waivers**,** fellowships, and scholarships, which are approved by the department faculty. Non-departmental support is defined as a graduate research assistantship (GRA) from a faculty member, an external fellowship, or a scholarship obtained by the student independent of departmental action.

M.S. (both thesis and non-thesis) students may receive departmental support totaling no more than the equivalent of six semesters of half time assistance (exclusive of summers), spread over no more than three academic years or six semesters (exclusive of summers).

Ph.D. students may receive departmental support totaling no more than the equivalent of eight semesters of half time assistance (exclusive of summers)**,** spread over no more than four academic years or eight semesters (exclusive of summers).

Students who choose to by-pass the M.S. degree may receive no more than the equivalent of 12 semesters of department support (exclusive of summers).

Exceptions to the normal amount of departmental support will be considered by the faculty in the light of:

1) the academic and GTA performance of the student;
2) circumstances necessitating support beyond the normal level;
3) evidence that the student has adequately explored alternate sources of funding; and
4) goals and needs of the department's graduate program in general.

A graduate student's eligibility with regard to duration of departmental support shall not be affected by the awarding of a graduate research assistantship (GRA) from a faculty member, an external fellowship, or a scholarship obtained by the student independent of departmental action.

Minutes: 7 November 1978; 6 November 1981; 6 May 1982; 14 April 2003; 12 May 2003; 2 May 2008

b. Timetable

The following timetable for GTA decisions is recommended:

Proposed reassignment of current GTAs to the faculty: 1-15 February

Deadline for Graduate School to receive applications for potential students to be certain to be considered for financial assistance: 15 February

A 15 February deadline will allow decisions regarding new GTAs to be made by 10 March. This does not mean that we will delay all recommendations to 10 March, nor does it necessarily mean we will recommend allocation of all GTAs by 10 March. It does mean, however that we will be capable of making all decisions no later than 10 March.

Minutes: 14 October 1976; 2 May 2008

6. Graduate Student Guide

The Graduate Director shall prepare a list of up-dated regulations of the department and distribute these to the graduate students.

Minutes: 7 July 1967; 9 September 1967; 2 May 2008

7. Literature Citation Style for Theses and Dissertation

Theses and dissertations shall utilize a citation style consistent with a highly regarded journal in the student’s area of research.

Minutes: 9 May 1985; 2 May 2008

8. Multiple Degrees from the University

Normally, Ph.D. students should have received one degree at another institution. Exceptions will be made for students who spend a post-baccalaureate semester or summer at another university or research station sometime prior to the awarding of the degree.

Minutes: 11 May 1971; 7 November 1978; 31 January 1983

9. Registration for Thesis or Dissertation Studies

All graduate students doing independent studies related to thesis or dissertation, which requires supervisory activity on the part of departmental faculty members shall register in directed studies, research, thesis or dissertation for the appropriate number of credits.

Minutes: 24 February 1968

10. Responsibilities of Graduate Students

It is the responsibility of the graduate student to do the following:

a. Meet the requirements set by the Graduate School and to initiate the submission of such forms and applications as are required, including, committee appointment**,** programs of study, topic proposal, preliminary approval**,** and notice of defense. It is also the responsibility of the graduate student to meet all deadlines established by the Graduate School.

b. Select a research subject and an advisor after consultation with and the consent of the prospective advisor**,** this process may involve lab rotations with various members of the faculty. Graduate students are expected to consult with prospective members of their committee, before requesting the Graduate Director to nominate committee members to the Dean of the Graduate School. Graduate students are expected to make this selection during their first year (and preferably their first semester) in residence.

c. Investigate and attempt to obtain additional research support from other sources.

d. Complete all course work, research papers, and directed studies projects within the time limits set by the professor or advisor concerned. If students are unable to complete this work within the allowed time, this information must be reported to the professor or advisor concerned before any incomplete grades can be assigned.

e. Arrange regular consultation periods with the advisor concerning research in progress and to meet with their advisory committee once a year at a bare minimum.

f. Bring any complaints concerning departmental procedures, programs of study, scheduling, or equipment requirements or operation to the attention of the advisor or the chairperson of the department.

g. Be sure that unauthorized students do not use Biology Department keys and that keys are not duplicated.

h. Submit a preliminary draft of the thesis or dissertation to the student's advisory committee at least one month before the deadline specified for preliminary approval. The preliminary draft shall be in reasonable grammatical form and in approved format. If the preliminary draft fails to conform with these standards, the advisee's committee has the prerogative to return it to the student for revision.

i. Assist the department in gathering all evaluation and assessment data.

j. Properly care for, operate, and secure any and all equipment entrusted to the student and to maintain their research area in a state conducive for theirs and others work and safety

k. Be familiar with the UND library resources, skilled in the use of abstracting sources and electronic data bases, and aware of current literature in the field. The student is expected to be consistently reading beyond what they are asked to read in classes.

l. Maintain a professional and mature attitude during residence at UND, since the graduate student is a representative of the department and serves as a guide and inspiration to undergraduate students**.** In particular, the student should be aware of the Code of Student Life and how it pertains to graduate student conduct.

m. Attend Biology Department sponsored seminars or lectures. The graduate student also is encouraged to attend germane seminars or lectures outside the department and to include more than the minimum number of seminars in their program of study.

The faculty recommends that the graduate student do the following:

a. Complete the program for the masters degree within 2-3 years and for the doctorate degree within 4-5 years.

b. Complete a rather thorough literature review before initiating research. The graduate student should assess the possibility of successful completion of the research, equipment needs and equipment available in the department, and the time and money requirements necessary for the successful completion of the project. Serious consideration of such factors may save the student from embarking on a research project that may not be feasible within this department or that may not be assured of completion.

c. Assist each other in the preparation of theses or dissertations through discussion, constructive criticism, and reading each other's preliminary drafts. This cooperation will improve the writing ability of all concerned.

d. Discuss the publication of meritorious research results with the advisor and attempt to publish some results before leaving the university. The publication of research papers will enhance the prospect of placement after graduation.

Minutes: 18 October 1967; 24 April 1984; 2 May 2008

Scholarly Tool Requirement

Two scholarly tools are required for the Ph.D.. The nature of the scholarly tools shall be determined based upon their importance to the student's field of research as determined by the student's advisory committee;

Minutes: 18 December 1968; 14 March 1969; 13 December 1985; 20 February 1987; 29 April 1987; 2 May 2008

12. Sign-out Procedure

Departing graduate students are required to take an exit interview administered by the department administrative secretary that all commitments have been fulfilled and appropriate signatures attesting that have been obtained.

Minutes: 3 February 1968; 2 May 2008

H. Graduate Program Assessment

The Biology Department has adopted a detailed plan for assessment of the M.S. and Ph.D. programs in Biology (Appendix VI).

Minutes: 25 April 2007

APPENDIX I

BIOLOGY FIELD STATION OPERATION & MANAGEMENT POLICY

Introduction

The University of North Dakota retains two parcels of land which have been operated as biological field stations used for the purpose of research and education. The parcels have been acquired by the University through either donation or purchase and are currently held without covenants or limitation on use other than those established by statute. The purpose of this policy is to establish the means and methods used by the institution to maintain each field station, ensure its safe use, and prioritize funding obligations. This policy is established by the university administration, and as such can be revoked or amended by the university administration without regard for future or present use.

Land Description

The field stations are described as the following tracts of land:

1. Forest River Field Station. A 160 acre tract of land described as the south half of the southwest quarter of section 11, township 154, near Inkster, North Dakota and adjacent to the Forest River.
2. Oakville Prairie Field Station. A combination of tracts including the northwest corner of section 9 – TWSP 151 (Oakville 1), the southwest quarter of section 9 – TWSP 151 (Oakville 2), all of section 16 – TWSP 151 (Oakville 3), and the west half of the southwest quarter of section 29 – TWSP 152 (Mekinok 1) all located within Grand Forks County and comprising approximately 1000 acres near Emerado, North Dakota.

In addition to the field station, the university also owns approximately 600 acres of agricultural land near Emerado, North Dakota which has been leased for cash rent, and is described within this policy as “Air Base Property.”

Authorized Use and Purpose

The field stations are considered land preserves to be used for education and research by all faculty and students of the University of North Dakota. The proposed uses of the field stations must receive unanimous approval by the members of the Field Station Committee (FSC), which will be comprised of two (2) appointees from the Biology Department, one (1) appointee from the office of the Vice President for Finance and Operations who will chair the committee, one (1) appointee from the office of the Vice President for Research, and one (1) appointee by the Dean of the College of Arts and Sciences.

The FSC members will meet on an annual basis or as determined by the chairperson. All approved uses of the field stations will be recorded into meeting minutes produced by the chairperson, and will include the person(s) authorized to enter and use the site, the nature of the research or education, and the duration of the use. The purpose of the documentation will be to establish a protocol for the UND Police department to ascertain who is authorized to access the site for security control. Signs necessary to control and manage access to the site will be recommended by the FSC and approved by the Vice President for Finance and Operations.

The FSC may appoint subcommittees as necessary and appropriate to manage daily activities of the field stations. Authority granted to any subcommittee must be in writing and approved by the Vice President for Finance and Operations.

Air Base Property

Rent revenue from the Air Base Property is provided through a agricultural lease agreement, the terms and conditions of which are renewed and negotiated by the office of the Vice President for Finance and Operations as per State Board of Higher Education policy. Proceeds from the lease agreement shall be expended in the following priority, with exceptions approved by the Vice President for Finance and Operations:

1. Reimbursement to the University of North Dakota for land acquisition.
2. Maintenance (including signs, or other services) and operation of the field stations.
3. Research and Educational expenditures as recommended by the FSC and approved by the Vice President for Finance and Operations.

Other, additional expenditures for uses prescribed by the institution's administration will take precedent over this policy at the discretion of the President of the University of North Dakota.

Property History and Use

The following narrative has been included to provide a background on the acquisition and prior use of the field station properties.

Forrest River Field Station

Originally donated to the University Memorial Corporation in 1952 by Ira and Freda Muir, fee title for this property now resides with the "University Fellows", a similar not for profit corporation which replaced the University Memorial Corporation. The office of the Vice President for Finance and Operations is currently negotiating with The Fellows to transfer the property as a gift to the University of North Dakota.

The property includes the south half of the southwest quarter, of section number eleven in township 154 in Grand Forks County. The 80 acres described above is located two miles west and one mile north of Inkster, North Dakota. The Forest River flows through the property and bisects it approximately into two equal parts. It has been designated an approved area in the National Register of Natural Areas by the Society of American Foresters, and consists of natural riparian area and gallery forest.
Records indicate that the property has supported a number of research projects, including a short term residence on the property which was accommodated by a cabin-like domicile which suffered repeated damage from vandals over a number of years. The structure has been razed, and currently there is no significant developed infrastructure on the property. There exist no restrictions or covenants upon use of the property.

Oakville 1

Originally purchased by the University of North Dakota Foundation from private owners in 1958, fee title for this property was transferred to the University of North Dakota in February of 2004. There exist no covenants or restrictions upon the use of the land according to title documents. No record of the purchase value of this property remains extant.

Records indicate that the property has been used for a number of research projects by the Biology Department, including the use of radioactive isotopes. This research, combined with the disposal of contaminated sheep carcasses by the Biochemistry Department, may have created a hazardous waste site. Due to statutory limitations on operation and ownership of a hazardous waste disposal site, fee title of the property was transferred to the University of North Dakota on the date indicated above.

Approximately two-thirds of the total 160 acres are undisturbed prairie. The eastern one-third of the property was under cultivation prior to acquisition by the University of North Dakota Foundation. Since 1988, the University has installed a celestial observatory on approximately two acres of the site near the southwest corner of the property. This area is contained by a security fence and is used by the Space Studies Department.

Oakville 2

Purchased by The Fellows in July of 2004 from the Herschel L. Johnson Revocable Living Trust, negotiations for transfer of fee title to the University of North Dakota are currently being conducted by the office of the Vice President for Finance and Operations. There exist no covenants or restrictions upon the use of the land according to title records. Purchase value of the property was $34,229.25, which has not been restored to the trust and remains unavailable for future acquisitions.

The property consists of the northern most 120 acres of land within the quarter section, and is bordered on its southern reach by a 10 acre strip of land owned by the City of Emerado, North Dakota. This 10 acre parcel of property has been used by the municipality as an unregulated, unprotected land fill which has since been abandoned. Because of the exceptionally high water table on this site, there exists a high probability that the landfill has contaminated the surrounding property to a large degree. The extent of contamination and its effect on both plant and animal life is undetermined.

Oakville 3

This property was purchased by the University of North Dakota through a title 15-09 acquisition from the North Dakota State Land Department in November, 2004. Prior to this time, the property was used by the Biology Department for a number of research projects, which continues to this day. Purchase value of the property was $74,258.00, which has not been restored to the trust and remains unavailable for future acquisitions.

The property consists of a full section of undisturbed prairie, save for two easement reaches that provide access for a high voltage transmission line and a buried petroleum pipeline. Both easements allow for access to service the utilities, including excavation and restoration of the soils. No record exists as to the preservation or restoration of the area other than a reference to the type of seed mixture required for the prairie grasses.

There exists a limitation on the use of the property as per NDCC 15-09 which stipulates that the property must be used for research and instruction purposes through 2009.

The northern reach of this property also borders the above mentioned landfill and may have the same issues of contamination.

Mekinock 1

Acquired as part of the “Air Base Property”, below, Mekinock 1 is undeveloped land with similar characteristics as the Oakville 1, 2, and 3. It consists of approximately 90 acres of undeveloped prairie which has been used for a limited number of field studies. The land is bordered on the west by a county road which acts to restrict natural drainage, and as a result creates a passive wetland during seasons with above average precipitation.

Air Base Property

This property was acquired by the University of North Dakota in February, 1965 as part of a grant award from the Department of Health, Education, and Welfare. It was acquired by the federal government in 1952 from private parties in order to construct the Grand Forks Air Force Base. The property was to be used for a second runway that was oriented on a northwest – southeast basis, but was later determined to be unnecessary. Subsequently the property was disposed of by soliciting a notice of

interest for which the University applied. Purchase value of the property was retired over a period of 20 years without cost to the University as a condition of the grant.

The property consists of 585.61 acres, along with a 17.35 acre easement on adjacent land that was reserved for a future drainage ditch that would have served the runway. The land is medium quality, tillable agricultural land suitable for row crops or small grains.

Transfer of the property to the University of North Dakota required a commitment to use the land for research and education. The original grant application specified research programs by both the Biology and Engineering Departments that would be conducted on the property. This covenant expired in 1984, and subsequently the land was leased for crop production. Revenue derived from the lease has been deposited in University accounts.

Summary

Biology Field Stations are important assets for both research and instruction. This policy is meant to establish a process where use of the field station can be regulated and maintained in the best interests of the University of North Dakota. Interpretation of this policy is remanded to the Vice President for Finance and Operations. This policy is placed into effect on the date below by the President of the University of North Dakota as granted by the State Board of Higher Education. The policy will remain in effect until terminated by the same authority.

APPENDIX II - FACULTY EVALUATION FORMS

II A – FACULTY EVALUATION OF DEPARTMENT CHAIR

II B – STAFF EVALUATION OF DEPARTMENT CHAIR

II C – ENHANCED OCTOBER SUPPLEMENT

II D – BIOLOGY DEPARTMENT FACULTY EVALUATION FORM

II E – ARTS & SCIENCES TENURED AND TENURE – TRACK EVALUATION FORM

Appendix II A - Faculty Evaluation of Biology Department Chair

The following survey is designed to assess faculty perceptions of administrative performance. Please indicate your response to the items below. Space will be provided for comments at the end of the survey.

In general, this individual:	Falls significantly short of expectations	Falls short of expectations	Meets expectations	Exceeds expectations	Significantly exceeds expectations
is available for consultation or discussion					
supports professional development in teaching, research and service					
serves as an effective mentor for faculty and helps them achieve professional goals					
communicates clearly, timely, and effectively					
maintains a "vision" for the department that helps set departmental goals					
implements new department goals through leadership and resource acquisition					
acts as an effective liaison between the department and the administration					
promotes and encourages effective resolution for personnel concerns					
supports development of innovative departmental programs and curricula					
effectively manages daily operations of the department					
makes sound/well-founded decisions that include input from faculty					
applies policy consistently and fairly for all personnel					
is willing to explain administrative decisions					
encourages an environment conducive to free exchange of ideas					
treats faculty professionally and respectfully					
deals with stressful situations in a professional manner					
builds trust and collegiality in the department					

If you selected responses other than "Meets Expectations," you are encouraged to provide specific comments to support your ratings on the next page.

Overall Performance Evaluation: FSSE FSE ME EE SEE

(Please circle)

1. If you selected responses other than "Meets Expectations," please provide specific comments related to your answers here.

2. What suggestion(s) do you have for the chair to be more effective and to enhance the Department?

3. What has the chair done for which you would like to commend him or her?

Appendix II B - Staff Evaluation of Department Chair

Department:_____ Chair's Name: _____

The following survey is designed to assess staff perceptions of administrative performance. Please indicate your response to the items below. If there is no basis for ranking performance, please leave blank. Space will be provided for comments at the end of the survey.

In general, this individual:	Falls significantly short of expectations	Falls short of expectations	Meets expectations	Exceeds expectations	Significantly exceeds expectations
is available for consultation or discussion					
is collegial					
expresses personal appreciation to staff for their accomplishments					
assists staff in meeting their duties					
is attentive to staff concerns					
communicates with me in a timely, clear, useful, and respectful manner					
rewards performance consistent with expectation					
promotes and encourages effective resolution of personnel concerns					
accepts suggestions and constructive criticism					
manages budgets effectively and efficiently					
effectively manages daily operations of the department					
works to maintain good relations with staff, students, and faculty					
makes sound/well-founded decisions					
accepts responsibility for own decisions					
deals with stressful situations in a professional manner					
builds trust and collegiality among the staff					
is willing to explain administrative decisions					

Overall Performance Evaluation: FSSE FSE ME EE SEE
(Please circle)

Please type any responses. Use additional pages if desired.

- If you selected responses above other than "Meets Expectations," you are encouraged to provide specific comments to support your ratings.

- What suggestions do you have for the chair to be more effective to enhance the Department?
- What has the chair done for which you would like to commend him or her?

Appendix II C – Enhanced October Supplement

ACADEMIC RECORD OCTOBER _____SUPPLEMENT

ROUTING:
COPY to Chair of the Department
COPY to Dean of the College
COPY to Dean of the Graduate School
COPY to Provost Office

Name: **Rank:** **Department:**

Please fill in any of the following data that is necessary to keep your academic record up-to-date: graduate work completed, publications, speeches, offices in professional associations, research grants, public service activities, other. Include only activities that have occurred since your last filing.

---

1. Summary of Accomplishments During Current Review Period (1 July 2006 through 30 June 2007)

A. Teaching Accomplishments

1. Undergraduate and Graduate Classes Taught (Include enrollments and number of sections)

2. Graduate Committees (Indicate Those Chaired vs. Member)

3. Other Teaching Related Accomplishments

B. Research Accomplishments

1. Publications (Include complete citations for all papers/books published or accepted for publication during the evaluation period)

2. Grants and Contracts (Include title, funding agency, $ amount, and funding period for awards received or active during the time covered by the evaluation)

3. Professional Presentations (Include name of presenter, title of talk, nature of the presentation (e.g. contributed, invited etc.), and meeting where presentation given)

4. Other Research-Related Accomplishments

C. Service Accomplishments (If served on a committee, include a brief description of duties and activities)

1. Departmental Service

2. University Service

3. Professional Service

4. Other Service-Related Accomplishments

Please list below publications which will appear, degrees which will be conferred, or other developments expected in the next six months which you would like to mention at this time.

Appendix II D - Biology Department Faculty Evaluation Form

Faculty Member: _____ Date of review: _____

Academic rank: _____ Since: _____

Period covered by the review: _____

Expectations (from page 2 of the contract):

____ %Teaching, ____ %Research, ____ %Service, ____ %Administration, ____ %Other

A. Materials to be used for evaluation. Provide the following by the indicated dates:

1. Updated CV (September 15th).
2. Enhanced October Supplement (September 15th). The department will provide an electronic version of this form. The form will cover all accomplishments for the fiscal year, July 1 though June 30.
3. Supporting Materials for Teaching (October 15th). For non-tenured faculty and non-tenure track instructors, these materials must be updated yearly. For tenured faculty on three year evaluation cycles, the teaching materials and reflective statement may be updated yearly, but must be updated every third year.
   (a) Student Evaluations: Results from Standard Undergraduate Student Assessment of Teaching forms (USAT) will be provided by the Biology Department. In addition to the USAT, faculty may provide other types of student evaluations, if they so desire.
   (b) Teaching Materials: Including, but not limited to:
   Syllabi: Representative syllabi from each course will be provided.
   Representative assignments and/or exams: One representative assignment and/or examination from each course will be submitted for review.
   (c) Reflective Statement on Teaching: This will include statements regarding the reviewee's philosophical approach to teaching, the specific departmental learning goals associated with the courses instructed, pedagogical approach(es) deemed appropriate for meeting these goals, and the methods used to directly assess whether or not the learning goals have actually been achieved. The statement must address how the accompanying documents support the reviewee's effectiveness in all 6 key areas of teaching expectations.
4. Narrative/self-evaluation of Research and Service (October 15th). Untenured faculty are expected to provide, on a yearly basis, a brief reflective statement on their research and service activities. The primary purpose of these reflective statements is to discuss past accomplishments and outline future goals during the upcoming year. University policy does not require tenured faculty to write reflective statements, but they are encouraged to do so prior to their 3-yr review.

NOTE: according to college policy, the reflective statements on Teaching, Research and Service (3c. and 4) must not exceed 6 pages in total.

B. Mechanism for evaluation:

1. The Executive Committee meets, discusses the faculty member's evaluation materials, and makes a draft of their evaluation (Part C).
2. The Executive committee meets with the faculty member being evaluated to discuss the evaluation.
3. The final version of the evaluation is forwarded to the Biology Department Chair.
4. The Chair completes the Faculty evaluation form that will be sent to the College of Arts and Sciences.
5. The faculty member being evaluated has a chance to view the form completed by the Chair and indicate whether they agree or disagree with the evaluation.

C. Evaluation (to be completed by the Executive Committee): Use the following five categories to describe the faculty member's performance relative to the % effort listed above and the departmental Tenure, Promotion and Annual Evaluation policy.

Significantly Exceeds Expectations: Faculty member merits special recognition for unequivocally superior performance (e.g., worthy of national, international or professional award nominations or is clearly outstanding in their field).
Exceeds Expectations: Designation used to indicate that certain aspects of the faculty member's performance exceed the norm.
Meets Expectations: Designation used to describe the majority of cases that are considered.
Falls Short of Expectations: Designation used to indicate that certain aspects of the faculty member's performance could be improved.

Falls Significantly Short of Expectations: Designation used in rare cases where individuals are mismatched with their jobs, are not meeting professional obligations, or are simply incompetent.

Teaching:									
	Significantly Exceeds Expectations		Exceeds Expectations		Meets Expectations		Falls Short of Expectations		Falls Significantly Short of Expectations
Comments (required – expandable box):									

Research:									
	Significantly Exceeds Expectations		Exceeds Expectations		Meets Expectations		Falls Short of Expectations		Falls Significantly Short of Expectations
Comments (required – expandable box):									

Service:									
	Significantly Exceeds Expectations		Exceeds Expectations		Meets Expectations		Falls Short of Expectations		Falls Significantly Short of Expectations
Comments (required – expandable box):									

Administration (if applicable):									
	Significantly Exceeds Expectations		Exceeds Expectations		Meets Expectations		Falls Short of Expectations		Falls Significantly Short of Expectations
Comments (required – expandable box):									

Summary Comments:

Department Evaluation Committee signatures:

Committee Chair: _____ _____

_____ _____

Appendix II E - A&S: Tenured and Tenure-Track Faculty Evaluation Form

PLEASE TYPE

Department: _____ Date of review: _____

Faculty Member: _____ Effective hiring date: _____

Academic rank: _____ Since: _____ Highest degree: _____

Purpose of review: _____ Pre-tenure, _____ Tenure, _____ Promotion, _____ Triennial, _____ Annual

Period covered by the review: _____

If applicable, years of tenure credit granted for experience prior to present position at UND: _____

If applicable, years of tenure credit for service at UND including the current academic year: _____

1. Expectations (from page 2 of the contract):
_____ %Teaching, _____ %Research, _____ %Service, _____ %Administration, _____ %Other

2. Evaluation: **Use the following five categories to describe the faculty member's performance relative to the expectations on page 2 of his or her contract (i.e., Position Description Form). A thorough narrative commentary must be included to justify each selection.** *Mere selection of a category does not constitute evaluation and is unacceptable.*

Significantly Exceeds Expectations: Faculty member merits special recognition for unequivocally superior performance (e.g., worthy of national, international or professional award nominations or is clearly outstanding in their field). ***Strong*** supporting evidence must be presented in the narrative.

Exceeds Expectations: Designation used to indicate that certain aspects of the faculty member's performance exceed the norm. Supporting evidence must be presented in the narrative.

Meets Expectations: Designation used to describe the majority of cases that are considered.

Falls Short of Expectations: Designation used to indicate that certain aspects of the faculty member's performance could be improved. The narrative must address ***specific areas*** that need improvement.

Falls Significantly Short of Expectations: Designation used in rare cases where individuals are mismatched with their jobs, are not meeting professional obligations, or are simply incompetent. ***Strong*** supporting evidence must be presented in the narrative.

Teaching:									
	Significantly Exceeds Expectations		Exceeds Expectations		Meets Expectations		Falls Short of Expectations		Significantly Falls Short of Expectations
Comments (required – expandable box):									

Research:									
	Significantly Exceeds Expectations		Exceeds Expectations		Meets Expectations		Falls Short of Expectations		Significantly Falls Short of Expectations
Comments (required – expandable box):									

Service:									
	Significantly Exceeds Expectations		Exceeds Expectations		Meets Expectations		Falls Short of Expectations		Significantly Falls Short of Expectations
Comments (required – expandable box):									

Administration:									
	Significantly Exceeds Expectations		Exceeds Expectations		Meets Expectations		Falls Short of Expectations		Significantly Falls Short of Expectations
Comments (required – expandable box):									

Other:									
	Significantly Exceeds Expectations		Exceeds Expectations		Meets Expectations		Falls Short of Expectations		Significantly Falls Short of Expectations
Comments (required – expandable box):									

Department Evaluation Committee:

Committee Chair: _____

_____

_____

_____

3. Department Chair's Evaluative Narrative (Required for all tenured and tenure-track faculty). (Fill in expandable box or attach separate page):

Was this evaluation made in accordance with a set of written departmental evaluation procedures on file in the College office and communicated to the faculty member? _____ **Yes** _____ **No**

Department Chair _____

Signature Date

~~4. Faculty Member~~

I have been given the opportunity to review the contents of my file. _____ **Yes** _____ **No**

I have seen this evaluation and discussed it with the appropriate departmental representative. _____ **Yes** _____ **No**

Check <u>one</u> as appropriate.

_____ I agree with the evaluation.

_____ I disagree with all or part of the evaluation.

_____ I disagree with all or part of the evaluation and intend to give my department chair a written statement within 5 working days.

Faculty Member _____

05/17/07 revised Signature Date

APPENDIX III
GRADUATE STUDENT TEACHING EVALUATION FORM

To be completed by the course coordinator and/or course instructor

Student=s Name_____ Course #_____

Evaluator=s Signature_____ Date_____

A. Do you feel qualified to evaluate the above named individual (circle one)

YES NO If yes, then answer B through D

B. Please mark any and all of the following responsibilities that were required of the above named student:

_____ Attend the course lectures

_____ Give lectures in the laboratory

_____ Design laboratory experiments

_____ Run the laboratory

_____ Attend laboratory preparation sessions

_____ Write and grade quizzes and/or exams

_____ Other (Specify)_____

C. Rate the student in each of the following categories:

E-Exceeds expectations; M-Meets expectations; D-Does not meet expectations

(NOTE: Any student receiving one or more D ratings will automatically receive an unsatisfactory evaluation and will be dealt with as prescribed by 3.b.2)c)[p.82 Biology Faculty Handbook] of the evaluation policy.)

JUSTIFICATION FOR AN E OR D MUST BE PROVIDED IN WRITING.

		E	M	D
1.	Attendance and Promptness Lectures, labs, prep sessions, paperwork	___	___	___
2.	Knowledge, Preparedness, and Classroom Skills Giving lectures, running labs, prep session participation, assuming responsibilities	___	___	___
3.	Communicative Skills Getting across information	___	___	___
4.	Attitude Towards students and responsibilities	___	___	___

12. Written Comments. Continue on back if necessary

APPENDIX IV

LIST OF COURSES

Introductory Courses

111. **Principles of Biology.** 3 credits. Intended for non-science majors seeking general knowledge and cultural appreciation of contemporary biology. Does not serve as a prerequisite for 150 or any other biology course. Students may not normally receive credit for both 111 and 150-151. F,S

111L. **Principles of Biology Laboratory.** 1 credit. Prerequisite or co-requisite: Biol 111. A basic biology laboratory to complement Biol 111. F,S

124. **Human Environment.** 2 credits. A study of the effect of human activity upon the environment in which we live. F

150, 151. **Introduction to Biology.** 6 credits. Basic concepts of biology with emphasis on life's diversity, processes, and man's place in nature. Broadly designed to satisfy the needs of those pursuing biological and preprofessional curricula. F,S

150L, 151L. **Introduction to Biology Laboratory.** 2 credits. Prerequisite or co-requisite: Biol 150, 151. A contemporary biology laboratory to complement Biol 150, 151.

Advanced Courses

Biology 150, 150L, 151 and 151L or equivalent are prerequisites for all 300 and 400 level courses listed below.

312. **Evolution.** 3 credits. A study of the processes that have led from the origin of life to the diverse patterns and forms of life observable today. S

315. **Genetics.** 3 credits. Prerequisites: Biol 150, 151. An introduction to genetics, with emphasis on classical genetic analysis and the biochemistry of gene transmission, expression and regulation. F

315R. **Genetics Recitation**. 1 credit. Prerequisite: Biol 150, 150L, 151, and 151 L. Corequisite: Biol 315. A recitation to aid students enrolled in Biol 315: Genetics. The class is designed to review both “big idea” concepts from lecture as well as to work through genetics problems. F

332. **General Ecology**. 3 credits. Prerequisite: course in systematics desirable. A study of the relationships of organisms to their biotic and abiotic environments. F

332L. **General Ecology Laboratory.** 1 credit. Prerequisite or co-requisite: Biol 332. Field projects and laboratory exercises to complement Biol 332. F

333. **Population Biology.** 3 credits. Principles of population genetics, population ecology, and evolution in plants and animals. F or S

336. **Systematic Botany.** 4 credits. Structure and classification of vascular plants with emphasis on field studies. F

338. **Animal Behavior.** 2 credits. Studies in animal social behavior. The influences of environmental factors on behavior is emphasized. S

341. **Cell Biology.** 3 credits. Prerequisite or co-requisites: Chem 105 and Chem 106. Recommended: Organic Chemistry. Description of processes common to life at the cellular level

including: biochemical and structural organization, membrane function, motility, signal transduction, growth, division and genetic regulation of the cell. S

341L. **Cell Biology Laboratory.** 1 credit. Prerequisites or co-requisites: Biol. 341, Chem 105 and Chem 106. Recommended: Organic Chemistry. Laboratory investigation utilizing techniques to study life at the cellular level including chemical composition and characterization, enzyme kinetics, metabolism and microscopy. S

350. **Plant Biology**. 3 credits. Prerequiiste: Biol 150/151 or permission of instructor. Structure and function of plants at the cellular, tissue, and whole plant levels. Topics also include ecological adaptations and plant-derived products. S/2

363. **Entomology.** 4 credits. Structure, functions, life history, classification, habits and distribution of insects. F

364. **Parasitology.** 2 credits. Classification, structure, functions and life cycles of parasites having importance to human, wildlife and veterinary health. F

364L. **Parasitology Laboratory.** 2 credits. Prerequisite or co-requisite: Biol 364. A basic parasitology laboratory to complement Biol 364. F

367. **Cytology**. 3 credits. A study of the structure and organization of the cell with special emphasis on the behavior and distribution of the chromosomes. S/2

369. **Histology.** 2 credits. Microscopical anatomy of vertebrate tissues and organs, with emphasis on man and other mammals. S

369L. **Histology Laboratory.** 2 credits. Prerequisite or co-requisite: Biol 369. A basic histology laboratory to complement Biol 369. S

376. **Animal Biology**. 3 credits. Prerequisites: Biol 150 and 151. Evolution, morpho anatomy, development, reproduction and other aspects of the natural history of invertebrate and vertebrate animals. S

376L. **Animal Biology Laboratory**. 1 credit. Prerequisites: Biol 150, 150L, 151, and 151L. Co-requisite: Biol 376. Observation of live or fixed animals belonging to various invertebrate and vertebrate groups with emphasis on their adaptations to environment/lifestyles. Laboratory projects will include some of the classical and modern techniques used in systematic studies. S

378. **Developmental Biology**. 3 credits. Pre-requisites: Biol 150, 151, 150L, 151L, 315, and 341. An overview of the general stages and mechanisms of development, experimental approaches used to study developmental processes and genetic and environmental influences that govern development. S

380. **Disease Biology**. 3 credits. A survey of the nature and etiology of infectious and parasitic disease in animals, pathogenecity and ways of transmission of most important disease agents, and effect of disease on individual organisms and populations. Particular attention is given to emerging zoonotic diseases transmittable between animals and humans and between wild and domestic animals.

397 **Cooperative Education**. 1-8 credits, repeatable to 24 credits. Prerequisites: Sophomore standing and approval of the department chair and acceptance by a supervisory faculty member. A practical work experience with an employer under the direction of supervisory faculty member. A written final report will be required and will be used as a basis for evaluation. S/U grading only. F,S,SS.

410. **Molecular Biology Techniques**. 4 credits. Applications of DNA and RNA analysis and recombinant DNA technologies, emphasizing practical experience in the laboratory. This class will meet twice a week fro 50 minutes in the classroom, and students will be expected to work 4-6 hours a week in the lab during open lab times. F/S

4XX. **Genomics.** 4 credits. Genomics describes the determination of the complete nucleotide sequence of an organism and subsequent analyses to decode the structural and functional information of all genes and regulatory sequences in the genome. This 4 credit course will consist of lectures, computer lab sessions, take-home assignments, student presentations, and discussion of research articles. S

420 **Neuroscience**. 3 credits. Prerequisites: Biol 150/150L and junior standing. A course covering fundamental areas of neuroscience including neuroanatomy, cell and molecular neurobiology, sensory systems, motor systems, regulatory systems, nervous system development, and cognitive and behavioral neuroscience. F

425. **Ichthyology.** 3 credits. Structure and function, anatomy, physiology, behavior, classification, distribution and ecologic aspects of fishes.

427. **Ornithology.** 3 credits. Classification, identification, morphology, distribution, ecology and life history of birds. S

428. **Mammalogy.** 3 credits. Classification, identification, morphology, distribution, ecology and life history of mammals. F

431. **Wildlife Management.** 4 credits. Theory and methods of management of game populations. F

433. **Aquatic Ecology.** 3 credits. Prerequisites: Biol 150, 151. Analysis of the relationships between organisms and their physical, chemical and biological environments in freshwater ecosystems. S/2

434. **Large Mammal Ecology**. 3 credits. Prerequisites: Biol 332. A course covering the details of the population ecology, specialized management approaches and techniques and conservation of large-bodied mammals in North America and worldwide. F/2

438. **Fisheries Management.** 3 credits. Concepts and approaches to the management of freshwater fisheries. Course will include discussion of life histories and requirements of important regional sport fishes. S

439. **Conservation Biology**. 3 credits. A course that integrates information from environmental policy, ecology, genetics, biogeography, economics, and ethics towards preventing extinction and maintaining biological diversity.

442. **Physiology of Organs and Systems.** 3 credits. Study of the physiology of organs and organ systems in the vertebrates. F

442L. **Physiology of Organs and Systems Laboratory.** 1 credit. Prerequisite or co-requisite: Biol 442. A physiology laboratory to complement Biol 442. F

450. **Molecular Genetics**. 2 credits. Topics will include basic molecular genetic mechanisms, recombinant DNA technology, the organization and function of the cell nucleus, and the molecular control of gene expression. S

470. **Biometry.** 3 credits. Analysis and design of experiments with emphasis upon biological models. Includes descriptive and inferential statistics through analysis of variance and introductory problems of bioassay. S

477. **Concepts of Biology.** 2 credits. Prerequisite: Senior status in biological science or consent of instructor. Consideration of the unifying concepts in biology. On demand.

480. **Senior Capstone Seminar**. 3 credits. Prerequisite: Senior status in biological science or permission of instructor. Key aspects of scientific inquiry and communication are investigated and assessed. Students will participate in discussions of relevant issues in biology and will develop an independent research project. This course provides an opportunity for students to integrate and apply knowledge and skills obtained in biology. F,S

489. **Senior Honors Thesis.** 1 to 15 credits; total not to exceed fifteen. Prerequisite; consent of the Department and approval of the Honors Committee. Supervised independent study culminating in a thesis. F,S

491. **Seminar.** 1 credit. Prerequisite: Major or minor in biology. Discussion of selected topics in advanced biology, a different topic each semester. F,S

492. **Research.** 1 to 4 credits. Open to qualified majors. Prerequisite: Consent of instructor. Research conducted under the supervision of a faculty member. F,S

494. **Directed Studies.** 1 to 4 credits. May be repeated up to a total of 9 credits. Designed to meet the needs of individual students in the areas of faculty specialization. Consent of instructor. F,S

499. **Special Topics.** 1 to 4 credits. Important and current topics in biology not covered by other courses.

Graduate Courses

503. **Seminar.** 1 credit. Discussion of selected topics in advance biology, a different topic each semester.

504. **College Biology Teaching.** 3 credits. Survey of literature and trends in biology teaching. (Approved for suspension in February of 1999)

520. **Helminthology.** 3 credits. Prerequisite: Biology 364 or equivalent. Morphology, physiology, and life histories of the worm parasites of humans and other animals.

522. **Medically Important Arthropods.** 2 credits. Prerequisites: Biology 363 or 364 or equivalent. The biology, distribution, and health significance of insects and arachnids having human and veterinary importance.

533. **Grassland Ecology.** 2 credits. Prerequisite: Biology 332 or equivalent. Phytogeography, environmental influences, and community dynamics of grassland ecosystems with emphasis on herbage production, ecosystem modeling, and ecological characteristics of major grass species.

534. **Quantitative Ecology.** 2 credits.

539. **Animal Societies.** 2 credits. Prerequisite: Biology 338 or equivalent. Social organization in animals, emphasizing division of labor communication, reproductive behavior, and adaptations to the environment.

540. **Waterfowl Biology and Management.** 2 credits. Classification, biology, and management of waterfowl.

542. **Comparative Endocrinology.** 3 credits. A comparative study of the hormonal regulation of physiological processes and mechanisms of hormone action in vertebrates and invertebrates.

551. **Biochemical Genetics.** 3 credits. Prerequisite: Biology 341 and 315 or equivalent. Topics include gene structure, gene protein relationships, transcription and translation, mutation, extra-chromosomal elements, and the regulation of gene expression. There is a substantial emphasis on the genetics of higher organisms.

554. **Cytogenetics.** 2 credits. Prerequisites: Biology 315 and 367 or equivalent. The cytological basis of genetics with special reference to chromosomal structure, number aberrations, and their effect on inheritance and evolution.

564. **Developmental Morphology of Plants.** 2 credits. Prerequisie: Biology 361 or consent of instructor. Morphological development of plants with emphasis on the causal factors.
571. **Advanced Biometry.** 3 credits. Prerequisite: an introductory course in statistics. Advanced topics in experimental design and statistical methods with emphasis on applications in biological research.
590. **Special Topics.** 1 to 4 credits. Important and current topics in biology not covered by other courses.
592. **Directed Studies.** 1-4 credits. Designed to meet the needs of individual and small groups of students in areas of faculty specialization. May be repeated to a total of 12 credits.
599. **Research.** Credits arranged. Maximum of 15 credits per semester. Intended for students conducting original research in consultation with staff. S/U grading only.

APPENDIX V

DEPARTMENTAL PLAN FOR ASSESSMENT OF UNDERGRADUATE STUDENT LEARNING (B.S. IN BIOLOGY AND B.S. IN BIOLOGY WITH PRE HEALTH SCIENCES EMPHASIS)

MISSION STATEMENT:

The 21st century will be the age of biology, extending a century-long revolution in the biological sciences. The future quality of human existence will be strongly dependent on advances in the life sciences. Consequently, the Biology Department has and will continue to play a key role in the central mission of the University of North Dakota, which is to enhance the quality of life for all citizens. Demand for programs in Biology has been increasing and will continue to do so because of a vital need for graduates trained in the core biological sciences, particularly related to cellular and molecular biology, medicine, evolution and ecology, and conservation biology. Furthermore, since non-scientists largely make the political, economic and ethical decisions regarding the application and use of emerging biological knowledge, there is an increasing need to enhance scientific literacy among the non-scientific public in order to facilitate effective societal decisions. In light of these emerging trends, the primary mission of the Department of Biology at the University of North Dakota is to excel in teaching, research, and service and to facilitate the application of basic scientific knowledge to emerging societal issues. We provide instruction to our own majors and to a large fraction of other UND students through service courses. Our instructional activities emphasize the nature of scientific inquiry, including it's ethical context, and the subsequent state of knowledge regarding all levels of biological organization, from molecules to ecosystems. We encourage the integration of knowledge across levels of biological organization in both our teaching and research activities, since such an integration will play a key role in the future maturation of biology as a scientific discipline. Instructional activities are conducted in conjunction with externally-funded, nationally and internationally recognized research programs of individual faculty members, which provides a significant opportunity for experiential undergraduate and graduate training in the basic nature of scientific inquiry. We impact the economic development of the state and region through our grant activity, service and community work, and by educating and training students to become successful alumni and assume leadership positions in disciplines related to the biological sciences. We respect and value the individuality of faculty members with regard to their research, teaching and service contributions, while accomplishing the overall mission of the Department.

STUDENT LEARNING GOALS AND ANTICIPATED EDUCATIONAL OUTCOMES

1. **Students will possess a sound factual knowledge of the core concepts and techniques in modern biology associated with all levels of organization, from molecules to ecosystems.**

   By the time students complete a B.S. degree in Biology at the University of North Dakota, they should be able to demonstrate an understanding of:

a. core factual concepts associated with all levels of biological organization,

b. the primary techniques used to study biological processes, and

c. the relationship(s) among core concepts from all levels of biological organization.

2. **Students will possess a clear understanding of the creative nature of scientific inquiry, including how new knowledge is created and communicated, and the role critical thinking and ethical considerations play in scientific inquiry.**

   By the time students complete a B.S. degree in Biology at the University of North Dakota, they should be able to demonstrate an:

   a. understanding of key principles of scientific inquiry,

   b. ability to design simple experiments and descriptive studies to answer basic biological questions, including the ability to critically evaluate the appropriateness of experimental treatments and sampling strategies,

   c. ability to critically analyze and interpret data,

   d. ability to critically read and interpret scientific literature to solve problems and answer questions,

   e. ability to effectively and persuasively communicate biological information orally, visually and in writing, and

   f. understanding of key ethical considerations associated with scientific inquiry.

EDUCATIONAL EXPERIENCES: ACHIEVING THE LEARNING GOALS AND ATTAINING THE EDUCATIONAL OUTCOMES

The curriculum associated with the B.S. in Biology has five tiers, which are structured to provide vertical integration of knowledge throughout the educational experience. Each tier and its associated educational experiences are discussed below.

Tier I – General Education and Cognate Requirements

The goal of this portion of the B.S. in Biology curriculum is to effectively integrate general education with requirements for the major, while simultaneously providing the student with the adequate background in cognate areas necessary to understand an integrative science like

biology. In this respect, general education is more directly incorporated into the biology curricula than for most other disciplines. As for all majors at UND, one year of written composition is required for Biology majors. In addition, one year of foreign language and a course in oral communication is either required or strongly recommended. Additional cognate courses that are required or recommended include physics, inorganic and organic chemistry, biochemistry, mathematics, and statistics. Other general education courses are recommended, depending on the particular area of concentration.

The Biology Department also contributes to the general education of non-scientists across campus through its non-majors (Biol 111/111L) course. This course emphasizes the basic nature of scientific inquiry and the relevance of core principles in the life sciences to key issues of societal concern, particularly related to molecular technology, evolutionary theory, and human-induced environmental change.

Tier II – Introduction to Biology and Scientific Inquiry

The goal of this portion of the curriculum, as represented by a two-semester lecture and laboratory course in introductory biology (Biol 150/150L, Biol 151/151L), is to provide a broad overview of the nature of scientific inquiry and core concepts related to all levels of biological organization, from molecules to ecosystems. The lecture portion of the course emphasizes the factual basis of the discipline, while placing these facts in the context of the ongoing and dynamic process of scientific inquiry. The laboratory portion of the course introduces students to some of the basic techniques used in biology and the thought processes associated with scientific inquiry.

Tier III – Core Concepts in Biology

The goal of this portion of the curriculum, as represented by a four course core sequence required of all Biology majors, is to provide an in-depth introduction to the principles and techniques associated with three key levels of biological organization (molecular, cellular, and organismal), along with an in-depth introduction to the evolutionary process that unite these levels. The courses required include Genetics (Biol 315), Cell Biology (Biol 341), Ecology (Biol 332), and Evolution (Biol 312). In addition, optional laboratory courses are available for Cell Biology (Biol 341L) and Ecology (Biol 332L). Because core classes usually enroll 150-200 students, primary emphasis in these classes is placed on an in-depth discussion of key principles and laboratory techniques associated with the core areas, rather than refining oral and written communication skills associated with scientific inquiry. The core principles and techniques learned in the four core courses, however, serve as the basis for additional training in potential areas of concentration, where written and oral communication skills are increasingly emphasized.

Tier IV – Areas of Concentration

The goal of this portion of the curriculum, as represented by four potential areas of concentration, is to provide students the opportunity to specialize in areas related to key societal

interest, including general biology, molecular-cellular-developmental biology, pre-health science, and ecology - evolutionary biology. Courses in the specialization serve to refine student understanding of the core principles and factual information related to molecular, cellular and organismal levels of organization, while addressing additional levels of biological organization not directly covered in the core sequence. Furthermore, since courses in the area of specialization normally have fewer students enrolled, they increasingly emphasize instruction in critical skills associated with the process of scientific inquiry, including the ability to critically read and interpret scientific literature and the ability to effectively communicate biological information, in both written and oral form.

Tier V – Senior Capstone Course

The senior capstone experience consists of a required, 3 credit course (Biol 477). The course is wide ranging. It includes a discussion of recent literature related to the integration of biological knowledge across multiple levels of organization. The course also assesses the student's ability to critically analyze, synthesize, and communicate scientific information. After a brief review of key principles related to scientific communication and ethical considerations, students perform an independent research project. Normally, the research project is literature based but it can also be based on data associated with a student's individual research experience. Results of the research project are summarized in appropriate written and oral format and the written report is evaluated by at least two members of the Biology faculty.

MEASURING EDUCATIONAL SUCCESS: DIRECT ASSESSMENT METHODS, TIMELINE, AND RESPONSIBILITY

To directly and quantitatively determine whether students are attaining the stated educational goals and desired educational outcomes, student assessment is focused on two primary areas. Area 1 includes the goals and outcomes associated with a sound factual knowledge of key concepts and techniques in biology (goal 1 a - c), along with their relationship to the process of scientific inquiry (goal 2 a - c). Area 2 includes the critical analysis, interpretation and synthesis of scientific literature, along with the effective and ethical communication of this information (goal 2 d - f). The two areas use different assessment approaches, which are discussed in detail below.

Area 1 Assessment - Key Concepts and Techniques in Biology and Their Relationship to the Process of Scientific Inquiry (goals 1 a - c and 2 a - c)

Our approach to direct and quantitative assessment of the goals and outcomes associated with this area uses a standard repeated measures experimental design, where attributes of individual subjects are measured before and after some "treatment," but without an untreated control group. The "treatment" in this case is the "educational experience" of the student associated with Tiers I – IV of the curriculum. Lack of an adequate control group prevents effective separation of the relative influence of student maturation from educational experience in causing a change in student performance. The design does, however, provide valuable and insightful information as to the knowledge of the initial and final student product and the influence of their educational experience.

A “pre-treatment” assessment allows us to quantitatively establish baseline knowledge of students entering the program. The assessment tool is administered to all students who declare themselves biology majors at the start of our first semester Introductory Biology class (Biol 150). While this approach does not provide a “pre-treatment” assessment for students that transfer into the program, it results in a significant pool of students for assessment purposes who will complete their entire program at UND. The assessment tool is a series of questions that establishes individual demographic data, previous educational background, and understanding of key principles in five core areas of interest: genetics/molecular biology, cell biology, ecology, evolution, and the nature of scientific inquiry. The structure and administration of the exam is patterned after other comparable assessment tools, including Advanced Placement and Graduate Record Exams. In order to effectively measure an increase in knowledge among students over time, questions in the “pre-treatment” assessment tool reflect a strong gradation of difficulty, ranging from factual recall of basic ideas that were likely covered in the student’s prior biological education, to interpretation of sophisticated data, and synthesis of complex ideas related to multiple levels of biological organization. The exam is constructed and administered by the Biology Department Associate Chair for Curriculum and Assessment (ACCA). Potential questions for inclusion on the exam are solicited from all faculty members in the department, but particularly from instructors in the introductory and core courses. Questions are also obtained from previous advanced placement and graduate record exams. The assessment tool is constructed by the ACCA in consultation with the Chair of Biology, but the entire faculty of the department eventually approves the final form of the exam. Demographic data, educational background, and performance of each student in each of the five key areas of knowledge is recorded by the ACCA in a data base permanently maintained within the department.

A “post-treatment” assessment given to each major completing the program allows us to quantitatively establish success of the Tiers I – IV educational experience in achieving the stated learning goals and desired educational outcomes (goals 1 a - c and 2 a - c). The “post-treatment” assessment is administered at the start of the Senior Capstone Course (Biol 477) and is required of all students for completion of the course. The “post-treatment” assessment is identical in structure and content to the “pre-treatment” assessment, with a strong gradation in difficulty of questions, from simple factual recall to those requiring considerable background and complex thinking skills. It includes an update of the student’s demographic data, previous educational experience and a direct assessment of their knowledge of the concepts in the five core areas of interest: genetics/molecular biology, cell biology, ecology, evolution, and the nature of scientific inquiry. For each student, updated demographic data, educational background, and performance on each of the five key areas is recorded by the ACCA in the data base permanently maintained within the department.

Area 2 Assessment - Critical Analysis, Interpretation, and Synthesis of Scientific Literature, Along with Effective and Ethical Communication of this Information (goal 2 d – f)

The objective of the Area 2 assessment is to directly establish the student’s ability to engage in three key areas related to scientific inquiry: (1) effective use of information technology to locate scientific literature relevant to a particular area of inquiry, (2) the ability to critical analyze, interpret, and synthesize literature or data-based information, and (3) the ability to effectively

communicate information orally and in writing. The independent research project each student completes in the Senior Capstone Course (Biol 477) serves as the basis for Area 2 assessment. The result of each student's research project is independently evaluated by at least two members of the Biology faculty. Scoring of student performance is done with explicitly defined metrics to assess both written and oral aspects of scientific inquiry (see Attachments # 1 and 2). Scores for each student on their analytical and communication abilities are provided to the ACCA, who records them in the permanent data base maintained in the department.

MEASURING EDUCATIONAL SUCCESS: INDIRECT ASSESSMENT METHODS, TIMELINE, AND RESPONSIBILITY

In addition to direct assessment, the department also gathers indirect measures of student success. On an annual basis, the ACCA obtains summary statistics for four indirect measures of student success and this information is maintained in a data base maintained within the department. Many of these are obtained directly from the Office of Institutional Research. These measures include:

- **Student Success in Introductory and Core Courses:** the percentage of students passing/failing and dropping our Introductory and Core Courses,
- **Retention and Graduation Rates**: the percentage and number of students initially enrolled in the program that actually graduate,
- **Student Evaluations:** student evaluations for both majors and non-majors are aggregated for a department-wide analysis of not just student perception of the quality of instruction, but also the clarity of the learning goals in our courses and how well students thought they actually achieved those learning goals, and
- **Alumni Surveys and Career Development:** alumni are regularly surveyed regarding their impressions of the program and their progress in obtaining positions related to their field of interest.

USE OF DIRECT AND INDIRECT ASSESSMENT RESULTS: DOCUMENTATION AND DECISION MAKING

Results from direct and indirect assessment are summarized annually by the ACCA and presented to the entire faculty for discussion during the spring semester. The annual summaries are maintained as part of a permanent record in the department. In addition to annual reports, multi-year trends in assessment results are provided to the faculty by ACCA when deemed appropriate, but at a minimum of every 7 yrs, associated with the undergraduate program review and evaluation. Based on assessment results, the faculty is encouraged to express any concern(s) it might have about the pattern of student performance and, more importantly, suggest how deficiencies in student performance might be improved, either by additional resources or restructuring of pedagogical approaches and course offerings. The Chairperson of Biology, in consultation with the departmental Executive Committee and the ACCA, then makes recommendations to the department's faculty and higher level administration, regarding the need for curricular adjustments and/or additional resources to enhance student performance.

PROPOSED SENIOR CAPSTONE COURSE

Proposed Required Capstone Course:

Biol 477. Senior Capstone Course. 3 credits. Prerequisite: Senior status in biological science and completion or concurrent registration in the required core sequence of courses, or consent of instructor. Key aspects of scientific inquiry and communication are investigated and assessed.

The course will be offered every semester with current enrollment anticipated to be 25-30 students per semester. One faculty member will serve as the coordinator for the course per semester. The goal is to have at least 4 faculty members willing to serve as coordinator, so that an individual faculty member would coordinate the course at most once every four semesters. The course will be wide ranging. At the start of the course the students will read and discuss recent literature related to the integration of core biological concepts across multiple levels of biological organization. The coordinator will then provide all students with a brief review of key principles related to effective communication in the sciences, including the social nature of scientific communication, principle forums for communication, reading and writing research reports, reviewing prior research, preparing oral presentations, and ethical considerations associated with scientific communication. Students will then conduct a literature search on a topic of their choice and present the results of that search in both written and oral format. All written reviews and oral presentations will be graded with established rubrics (see attachments 1 and 2). Faculty coordinators will have flexibility in structuring the details of the course as they deem appropriate but grading with established rubrics will be required to allow comparisons among students for assessment purposes. A possible progression related to the topic development, writing of the final review paper, and oral presentation of the results is illustrated below, as adapted from Porter (2005):

1. **Selection of topic** – The student tentatively chooses a topic paper on which they will base their research project. The topic can either be based on their specific interests or selected from a list provided. Each member of the faculty will be asked to supply potential topics and topic papers from their respective areas of interest to be included on the list.

2. **Preliminary research** – A preliminary literature search is conducted using sources with which the student is familiar.

3. **Information literacy instruction** - The student receives formal instruction from an information specialist on bibliographic resources (electronic and paper) and their use.

4. **Topic paper selection** – The student makes the final topic paper choice.

5. **Preliminary topic choice** – The student reformulates the preliminary topic statement and performs the search once approved by the course coordinator and the information specialist.

6. **Topic refinement** – The topic statement is refined, and additional searches are performed using all of the available resources. If necessary, the student seeks additional guidance form either the course coordinator or individual faculty in the topic area of interest.

7. **Update bibliographic list (assignment 1)** – The student develops a list of 25-30 articles that updates the topic of the topic statement. The bibliographic list is graded using the associated rubric (attachment 1).

8. **Preparation for abstracting** - Three articles are chosen from the updated list, and these are read for clear understanding.

9. **Abstracts (assignment 2)** - Abstracts are written for the three articles chosen (due 2-3 weeks after assignment 1). The abstracts are graded using the associated rubric (see attachment 1).

10. **Outline of paper** – The student reads additional papers and formulates the outline of the final paper using the headings provided ("Background," "Principal Approaches," "Present Knowledge," "Future Directions," and "Conclusions"). The course coordinator provides feedback on the basic outline.

11. **Initial draft of paper (assignment 3)** – The student is given the grading rubric for the paper prior to the writing assignment (attachment 1). The student then writes the initial draft of the paper. If necessary, the student seeks help in science understanding from either the course coordinator or a faculty member in the area of interest. The student can also seek help in grammar, syntax, and sentence structure from the Writing Center on campus. The initial draft is graded by the course coordinator using the rubric. Special emphasis is placed on providing feedback on how to improve the clarity of the presentation,

11. **Final draft of paper (assignment 4)** – The student writes the final paper (due at the end of the semester). The final paper is graded using the rubric by two faculty members; the course coordinator and a faculty member in the topic area of interest.

12. **Oral presentation (assignment 5)** - The student gives a 15 minute oral presentation at the end of the semester, summarizing the results of the paper. The presentation is of a form and style that meets the expectations of a scientific audience and is presented with a sense of purpose that reflects the audience being addressed. The oral presentation is graded by the course coordinator and the other students in the class, using the associated rubric (attachment 2).

ATTACHMENT # 1

BIOLOGY 477 – SENIOR CAPSTONE COURSE
SCORING RUBRIC FOR LITERATURE SEARCH, ABSTRACT PREPARATION AND "STATE OF THE ART" PAPER[1]

DIMENSION	LEVEL OF ACHIEVEMENT		
Bibliographic Search	***Excellent***	***Competent but Needs Work***	***Needs Substantial Work***
	25-30 articles Cited	**20-25 articles cited**	**less than 15 articles cited**
	Topic statement clear	**Topic statement general or unclear**	**Topic statement missing or not interpretable**
	Articles clearly related to the topic statement	**Some articles not related to the topic statement**	**Many articles not not related to the topic statement**
	Citation format followed exactly	**Citation format inconsistent or or frequently not as specified**	**No consistent format for citations**
	Spelling correct	**Some spelling errors**	**Frequent spelling errors**

SCORE _____
(70 POINTS POSSIBLE)

Abstracting Of Papers

Excellent	*Competent but NeedsWork*	*Needs Substantial Work*
3 abstracts	**2 abstracts**	**< 2 abstracts**
Abstracted papers clearly related to the topic	**Some abstracted papers not clearly related to the topic**	**None of the abstracted papers are clearly related to the topic**
Abstracts grammatically correct; precise, clear wording, spelling correct	**Some abstracts are not clear or organization is mixed or incomplete; some grammar and spelling errors**	**No adherence to the format of an abstract; excessive grammatical and spelling errors**

SCORE _____
(30 POINTS POSSIBLE)

"State-of-the-Art" Paper

Excellent	*Competent but Needs Work*	*Needs Substantial Work*
Content		
Arguments clear and complete and easy to follow	**Arguments nearly complete but lack clarity and sometimes hard to follow**	**Arguments and content incomplete, poorly worded and unclear, and difficult to follow**
Content accurate, thorough, complete concise, and coherent	**Content inaccurate, wordy, illogical or incomplete**	**Content illogical, paper lacks any focus**

Relationships among concepts easy to follow	**Relationships among concepts sometimes difficult to follow**	**Relationships among concepts largely absent**
Draws conclusions logically and consistent with evidence	**Some conclusions illogical**	**Conclusions largely lack logic**
Effectively weighs alternative points of view	**Considers alternative points of view**	**Ignores alternative points of view**

Organization and Format

Paper effectively structured to illustrate complex relationships	**Relationships among structural components present but poorly developed**	**Incoherent structure**
Headings and sub headings effectively used	**Headings and sub headings present but ineffective**	**Headings and sub headings absent**
Sentence structure complete, clear, and grammatically correct	**Sentence structure and spelling show regular errors**	**Sentence structure poorly developed with many errors**
Quotations infrequent and only when necessary	**Several quotes that could have easily been omitted**	**Excessive use of quotations**
Spelling accurate	**Some misspellings**	**Many misspellings**
Paper format followed precisely	**Format nearly correct but not followed precisely**	**Format mostly not followed**
References always used when needed	**Some references missing**	**Many missing references**
Reference style in text and bibliography consistent and correct	**Reference style inconsistent and some incorrect**	**Reference style very inconsistent and many incorrect**

Tables and figures used when appropriate	**Figures or tables missing or poorly incorporated**	**Figures or tables are ineffective**

Summary

Paper goes well beyond minimum expectations	**Paper achieves minimum expectations**	**Lacks considerably in coherence and style**

SCORE _____
(100 POINTS POSSIBLE)

TOTAL SCORE _____
(200 POINTS POSSIBLE)

[1]Adapted from: Porter, J.R. 2005. Information Literacy in Biology Education: An Example from an Advanced Cell Biology Course. Cell Biology Education 4: 335-343.

ATTACHMENT #2

BIOLOGY 477 – SENIOR CAPSTONE COURSE
SCORING RUBRIC FOR ORAL PRESENTATION[1]

DIMENSION	LEVEL OF ACHIEVEMENT		
	Excellent	*Competent But Needs Work*	*Needs Substantial Work*
Style			
	Spoke clearly, slowly and with sufficient volume; modulated voice tone and quality; intelligibile	Mumbled, spoke too fast or too slow; inappropriate volume; droned but still intelligile	Mumbled, spoke too fast or too slow; inappropriate volume; droned; intelligibility compromised
	Used expressive and appropriate body language and maintained eye contact	body language did not distract but remained rigid; no eye contact ; some distraction from content	Remained rigid and fidgeted; never looked at at the audience; body language seriously distracted from content
	Presented information in own words; did not read material	Mixed reading of presentation with own words	Read presentation
	Effectively used time allotted	timing was too long or too brief	Barely used time allotted or used much too much time
	Supportive material and technology effectively used	Supportive material and technology used; some fumbling but did not distract from presentation	Supportive materials and technology ineffectively used, distracted from presentation

STYLE _____
(30 POINTS POSSIBLE)

Organization			
	Well organized, with introduction, body, and conclusion	Mostly well organized but problems with clarity of the relationship between introduction, body, and conclusion	Rambled , with little evidence of an introduction, body, or conclusion
	Organization highlighted and made clear through use of appropriately captioned Power Points Or other materials	Used materials to create sense of organization but too wordy or too vague to assist the audience in an effective manner	Materials were not used or did not assist in creating a sense of organization in any significant way

ORGANIZATION _____

(30 PPOINTS POSSIBLE)

DIMENSION	**LEVEL OF ACHIEVEMENT**		
	Excellent	***Competent But Needs Work***	***Needs Substantial Work***
Content			
	Facts and examples were detailed, accurate, and appropriate	**Facts and examples were mostly detailed, accurate and appropriate but there were lapses**	**Facts and examples were seriously lacking in detail and were inaccurate or inappropriate**
	Theories or hypotheses referenced were accurately described and appropriately used	**Theories or hypotheses were referenced but they were not accurately described or not appropriately used**	**Theories or hypotheses were inaccurately described and inappropriately used or not referenced or used at all**
	Analysis, discussion, and conclusions were explicitly linked to the examples, facts, and theories	**Connection between analysis, discussion, and conclusions is evident or implied but not explicitly linked to examples, facts, and theories**	**No clear connection between the analysis, discussion, and conclusions, and the facts, examples, and theories**
	Openly considered various points of view related to the issue	**Considered various points of view but dismissive of legitimate points of view**	**ignored all alternative points of view in the in the literature**
	Drew conclusions consistent with the evidence	**Most conclusions consistent with the evidence but som were not**	**Conclusions inconsistent with the evidence**

CONTENT _____
(40 POINTS POSSIBLE)

Summary

Clearly meets the standards of a professional oral presentation	**Lacking in some components of a professional oral presentation**	**Clearly does not meet the standards of a professional oral presentation**

TOTAL SCORE _____
(100 POINTS POSSIBLE)

[1]Adapted from: Stevens, D. D. and A. J. Levi. 2005. Introduction to Rubrics. Stylus Publishing, Sterling, VA. 131 pp.

APPENDIX VI

DEPARTMENTAL PLAN FOR ASSESSMENT OF GRADUATE STUDENT LEARNING

Mission Statement

The mission of the Biology Graduate Program is to prepare our students well for careers in teaching and/or research in academics, government or industry, or for further graduate training. We strive for excellence in graduate education, mentorship and research across the breadth of biology, while focusing on strengths in vital sub-disciplines. We provide enriched, forward-looking graduate experiences in the areas of ***Ecology, Evolution, and Conservation Biology*** and ***Molecular, Cellular, and Developmental Biology***. We strive to prepare students for the increasingly important integration of biological knowledge across levels of organization from molecules to the environment.

Goals and Associated Learning Outcomes for the Graduate Program in Biology

1. By the time they complete graduate degrees in Biology at the University of North Dakota:

    a. MS Students will demonstrate a **broad knowledge** and understanding of the major concepts of modern biology across all levels of biological organization from molecules to ecosystems, including the conceptual relationship among these levels of organization, and a **deeper understanding** of at least **one sub-discipline** of biology.

    b. PhD students will demonstrate a **broad knowledge** and understanding of the major concepts of modern biology across all levels of biological organization from molecules to ecosystems, including the conceptual relationship among these levels of organization, and exhibit **substantial depth of knowledge and ability to evaluate and communicate relevant theories, controversies, and unanswered questions** in at least **one sub-discipline** of biology.

2. As students progress through the MS and PhD programs at the University of North Dakota, they will exhibit an increasing ability to **independently engage in the scientific process** to both create and disseminate new knowledge. This will include the ability to:

    a. Clearly and concisely **propose a research project** that incorporates the most recent body of knowledge in the discipline, **critically analyzes** accepted and emerging ideas in the discipline, and **poses clear objectives and testable hypotheses** along with appropriate methods and techniques for testing those hypotheses.

b. Demonstrate mastery of the **technical skills** necessary for making observations, gathering and analyzing data, and testing hypotheses in the particular sub-discipline.

c. **Synthesize information and communicate the results of their research** clearly and effectively in oral, written and visual form, including publication in peer-reviewed outlets and presentation at professional meetings.

3. Students will develop and display an understanding of **professional ethics** in the conduct of research, teaching, and service as scientists.

ATTAINING EDUCATIONAL GOALS AND LEARNING OUTCOMES: GRADUATE MENTORSHIP

To facilitate the transition into the graduate program and assure continued progress towards meeting the educational goals, we require continued interaction between the Graduate Advisory Committee (GAC) and the student. This ongoing mentorship is facilitated by an initial review of the student's background conducted early in the first semester, and annual follow-up meetings that also serve as assessment opportunities:

Initial review of student knowledge and abilities by the Graduate Advisory Committee (GAC). This review is conducted early in the first semester of the graduate program to identify potential deficiencies in the student's background. The GAC will review the student's transcripts and GRE scores and conduct a brief "interview" to assess their current knowledge in basic principles of biology. The review will be used to make a recommendation regarding courses that will be part of the program of study or other activities (see attachment # 1)**.**

ATTAINING EDUCATIONAL GOALS AND LEARNING OUTCOMES: DIRECT ASSESSMENT OF STUDENT PERFORMANCE

The Biology Department uses a 4 stage process to directly assess effectiveness of our MS and PhD programs.

1. **Annual evaluation of student progress**. The GAC will meet with the student each academic year to assess progress towards completion of the program of study and the thesis/dissertation research project. The meeting also provides an opportunity to advise the student on questions related to research progress. The GAC completes an evaluation of student progress (see attachment # 2), including the level of professional development based on performance in coursework, participation in departmental and professional activities (e.g. attendance at seminars,) and research progress. A summary of participation in professional activities, including presentation of papers at professional

meetings and publications in peer-reviewed outlets, is provided to the department's Director of Graduate Studies (DGS) and used to assess overall effectiveness of the program in meeting **Goal 2c.** In addition, each year all graduate students present a brief (15-20 minute) oral summary of their research progress to the department.

2. **Comprehensive examination administered by the Examining Committee**. The comprehensive exam is normally conducted in the second full year for an MS student and no later than the third year for PhD students. The examining committee consists of the GAC for M.S. students and the GAC with an additional member appointed by the Chair for Ph.D. students. Both exams cover all levels of organization in biology, from molecules to ecosystems, but with increased emphasis on depth of knowledge and understanding of the specialty sub-discipline in the PhD program. The comprehensive exam is graded by the examining committee using a standard rubric (see attachment #3) to evaluate the student's understanding of biology and the program's effectiveness in achieving **Goal 1a (MS students) or Goal 1b (PhD students)**.

3. **Ethical training.** All graduate students are required to pass a course in the ethics of professional activities (e.g., BIMD 516). Students will receive training in ethical and compliance issues associated with careers as educators and scientists. In particular, students are educated to understand the sources of conflicts and the sources of information or guidance useful in making ethical decisions. Successful completion of the course by the graduate students in our program is indicative of overall effectiveness of the program in meeting **Goal 3.**

4. **Thesis or dissertation research.** Students will design and conduct a research study, analyze the resulting data, and write a thesis or dissertation describing in detail the significance of the research, relevant scientific literature, materials and methods, results, interpretation of results, conclusions, and broader implications. The research is supervised and the final product evaluated by the student's GAC. **Goals 2 and 3** are assessed at a series of three stages leading to the final thesis or dissertation.

a. **Written Thesis/Dissertation Proposal and Proposal Defense**

The written research proposal is evaluated by the GAC and an oral presentation of the proposal is made to the department and evaluated by the GAC. Assessment will focus specifically on knowledge of the biological problem, the relevant literature, the technical approaches suitable for addressing the problem, and scientific inference. The GAC evaluates the proposal and its defense using a standardized rubric (see attachment #4). The rubric serves as a direct assessment of the programs effectiveness in achieving **Goal 2a.**

b. **Departmental Seminar.**

Each graduate student will present the results of their thesis or dissertation research to the Department as part of the seminar series. Biology faculty members, students, and others typically attend these seminars. The student's GAC evaluates the seminar using a standardized rubric (see attachment # 5) as part of the Final Defense, which follows

immediately after the seminar The rubric serves as a direct assessment of the programs effectiveness in achieving **Goals 2a-c.**

c. **Final Thesis/Dissertation and Defense**. Each graduate student will defend his or her thesis or dissertation research prior to graduation. This is an oral examination conducted by the student's GAC and other faculty members that choose to attend. The GAC uses a standardized rubric to evaluate the thesis/dissertation content (see attachment #6) and defense of the thesis/dissertation (see attachment #7). These rubrics serve as a direct assessment of the programs effectiveness in achieving **Goals 2 and 3**.

MEASURING EDUCATIONAL SUCCESS: INDIRECT ASSESSMENT METHODS, TIMELINE, AND RESPONSIBILITY

In addition to direct assessment, the department also gathers indirect measures of student success. On an annual basis, the department's Director of Graduate Studies (DGS) obtains summary statistics for three indirect measures of student success and this information is maintained in a database within the department. Many of these are obtained directly from the Office of Institutional Research or the Graduate School. These measures include:

- **Retention and Graduation Rates**: the percentage and number of students initially enrolled in the program that actually graduate, along with time to graduate and other measures of student success are recorded,
- **Student Evaluations:** student evaluations for graduate courses are aggregated for a department-wide analysis of not just student perception of the quality of instruction, but also the clarity of the learning goals in our courses and how well students thought they actually achieved those learning goals,
- **Current Graduate Student Survey:** Current graduate students are surveyed annually to obtain their perceptions of the program, including the nature of the financial support provided, intellectual support from the GAC, and suitability of training received during their program**.**
- **Alumni Surveys and Career Development:** The department tracks students after they
  complete their programs and monitors their success at: (a) admission into further graduate training programs (for M.S. graduates) and (b) finding jobs related to their field of study. We also use a mailed questionnaire to solicit feedback on what graduate students found to be useful in their graduate training, or what they needed in their later work that was not provided in their training.

USE OF DIRECT AND INDIRECT ASSESSMENT RESULTS: DOCUMENTATION AND DECISION MAKING

Results from direct and indirect assessment are summarized annually by the DGS and presented to the entire faculty for discussion during the spring semester. The annual summaries are maintained as part of a permanent record in the department. In addition to annual reports, multi-

year trends in assessment results are provided to the faculty by the DGS when deemed appropriate, but at a minimum of every 7 yrs, associated with the graduate program review and evaluation. Based on assessment results, the faculty is encouraged to express any concern(s) it might have about the pattern of student performance and, more importantly, suggest how deficiencies in student performance might be improved, either by additional resources, restructuring of course offerings, or alterations in procedures associated with graduate mentoring. The Chairperson of Biology, in consultation with the departmental Executive Committee and the DGS, then makes recommendations to the department's faculty and higher level administration, regarding the need for programmatic adjustments and/or additional resources to enhance student performance. In addition to program assessment, the DGS will periodically review the utility of assessment practices and implements (e.g. Rubrics) and determine if any changes should be considered by the faculty.

Attachment 1 – Initial Review of Student Background/Knowledge and Program of Study Recommendations

Attachment 2 - Annual Summary of Student Progress - Research

Attachment 3 – Assessment Rubric: Summary of Student Performance on Comprehensive Exam

Attachment 4 – Assessment Rubric: Thesis/Dissertation Proposal

Attachment 5 - Assessment Rubric: Thesis/Dissertation Departmental Seminar

Attachment 6 - Assessment Rubric: Final Thesis/Dissertation

Attachment 7 - Assessment Rubric: Thesis/Dissertation Defense

Attachment 8 – Graduate Program Student Survey

Attachment 1: Initial Review

Student Name _____ Date _____

Degree Program (circle one) M.S. (thesis) M.S. (non-thesis) Ph.D.

Graduate Advisory Committee 1. _____ (advisor)

2. _____ 3. _____

4. _____ 5. _____

Student Background:
Undergraduate degree, year, school, major :

Graduate degree, year, school, major (include thesis title):

Relevant undergraduate and graduate coursework (indicate U=undergraduate, G=graduate coursework)

	Ecology		Genetics
	Evolution		Cell Biology
	Statistics		

GRE scores

Verbal	Quantitative	Analytical	Biol Subj Ecology	Biol Subj Organismal	Biol Subj Cell

Research or relevant work experience, including publications:

Background knowledge (interview):

Subject Area	Substantial Deficiency	Slight Deficiency	Acceptable	Good - Excellent	
Ecology					
Evolution					
Genetics					
Cell Biology					
Statistics					

Committee Recommendations to Address Deficiencies:

Attachment 2: Annual Evaluation

Student's Academic and Research Progress towards the **Master of Science** Degree
To be completed by the Student's Graduate Advisory Committee

Student's Name _____

Advisor's Signature_____ Date_____

_____ _____

_____ _____

_____ Year in which student was admitted to current degree program.
_____ Number of semesters of T.A. support to date (including current semester).
_____ GPA at end of previous semester based on _____ credit hours.

Place an "X" where applicable:
_____ Committee appointed BY THE DEAN
_____ Program of Study approved BY THE DEAN
_____ Outline of thesis approved BY THE DEAN

Progress on Thesis:
_____ Field/lab work begun
_____ Field/lab work finished
_____ Data analysis begun
_____ Data analysis finished
_____ Thesis writing begun
_____ Thesis writing finished
_____ Program of Study completed

_____ Comprehensive Exam passed
_____ Departmental Seminar presented
_____ Thesis defended
_____ Application for degree submitted

Anticipated date of completion (if known) _____

List any professional scholarly activity, such as papers published, manuscripts submitted, technical reports, presentations at meetings, etc. Use additional space as needed.

Attachment 2: Annual Evaluation

To date:	Unsatisfactory	Marginally satisfactory	Satisfactory	no basis or N.A.
Performance in Coursework				
If unsatisfactory, what course(s) are the source of this judgement?				
Performance in Teaching				
Basis for judgement? (e.g. student evaluations, instructor evaluations)				
Performance in Research (Evaluate the following. Consider in the evaluation that students are at different stages of project development).				
Good understanding of conceptual / theoretical foundations				
Has read and understood relevant primary literature				
Has developed scientifically sound research plan, including methods for data analysis				
Has generated suitable data				
Has analyzed data correctly using appropriate methods				
Is making adequate progress in written presentation of research results (note manuscripts, reports, thesis/dissertation)				
Has presented results at a meeting (note local, regional, national, and oral or poster)				
Has demonstrated grasp and appropriate application of ethical considerations				
Is making progress towards degree				

Written comments: Use additional space as needed.

Attachment 2: Annual Evaluation

Student's Academic and Research Progress towards the **Doctor of Philosophy** Degree
To be completed by the Student's Graduate Advisory Committee

Student's Name_____

Advisor's Signature_____ Date_____

Committee Member Signatures (sign and print name)

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ Year in which student was admitted to current degree program.
_____ Number of semesters of T.A. support to date (including current semester).
_____ GPA at end of previous semester based on _____ credit hours.

Place an "X" where applicable:
_____ First Scholarly Tool Requirement (reading knowledge of one foreign language or 5 credits of course work in supporting area)
_____ Second Scholarly Tool Requirement (reading knowledge of a second foreign language or 5 credits in supporting area)
_____ Committee appointed BY THE DEAN
_____ Program of Study approved BY THE DEAN
_____ Outline of thesis approved BY THE DEAN

Progress on Thesis:
_____ Field/lab work begun
_____ Field/lab work finished
_____ Data analysis begun
_____ Data analysis finished
_____ Thesis writing begun
_____ Thesis writing finished
_____ Program of Study completed

_____ Comprehensive Exam passed
_____ Departmental Seminar presented
_____ Final Examination passed
_____ Application for degree submitted

Anticipated date of completion (if known) _____

Attachment 2: Annual Evaluation

List any professional scholarly activity, such as papers published, manuscripts submitted, technical reports, presentations at meetings, etc. Use additional space as needed.

Written Comments: Use additional space as needed.

Attachment 2: Annual Evaluation

To date:	Unsatisfactory	Marginally satisfactory	Satisfactory	no basis or N.A.
Performance in Coursework				
If unsatisfactory, what course(s) are the source of this judgement?				
Performance in Teaching				
Basis for judgment? (e.g. student evaluations, instructor evaluations)				
Performance in Research (Evaluate the following. Consider in the evaluation that students are at different stages of project development).				
Good understanding of conceptual / theoretical foundations				
Has read and understood relevant primary literature				
Has developed scientifically sound research plan, including methods for data analysis				
Has generated suitable data				
Has analyzed data correctly using appropriate methods				
Is making adequate progress in written presentation of research results (note manuscripts, reports, thesis/dissertation)				
Has presented results at a meeting (note local, regional, national, and oral or poster)				
Has demonstrated grasp and appropriate application of ethical considerations				
Is making progress towards degree				

Attachment 3: Rubric for Comprehensive Exam 6/27/2008

Student: _____ Area of Research (circle one): MCDB EECB Date: _____

Examining Committee: _____

Degree Program (circle one): M.S. Ph.D. Exam Type (circle one): Oral Written

Note: The Ph.D. written exam will also have individual grades for each question and section.

	High Pass	Pass	Low Pass	Fail	Score
Breadth of Knowledge (range and accuracy of information) subsection- Ecology/Evolution Organismal Cellular/Subcellular	demonstrates knowledge of an exceptional range of information, with a high level of accurate and relevant detail □ □ □	demonstrates knowledge of a reasonable range of information, with an adequate level of accuracy and detail □ □ □	knowledge has minor gaps, or is often superficial, or answers have some minor inaccuracies □ □ □	knowledge has major gaps, or multiple major errors in information or irrelevant detail □ □ □	HP P LP F
Integration of Knowledge (relationships among levels of biological organization)	clearly understands the conceptual linkages among all levels of biological organization, with exceptional detail in all cases	understands the conceptual linkages among multiple levels of biological organization, with a reasonable level of detail	has a basic, but superficial understanding of the linkages among at least some levels of biological organization	demonstrates a lack of understanding of how knowledge at one level of organization informs our view of other levels	HP P LP F
Depth of Understanding (comprehension and application)	demonstrates a thorough and exceptionally detailed understanding of important concepts, their significance, and application to understanding biological phenomena	demonstrates a general and reasonably detailed understanding of important concepts, their significance, and application to understanding biological phenomena	has a basic understanding of important concepts and a superficial understanding of their significance and application, possibly limited detail or some minor misunderstandings	does not understand important concepts or fails to comprehend their significance or the logic in applying concepts to understanding biological phenomena	HP P LP F
Critical Thinking (analysis, synthesis, evaluation)	exhibits exceptional ability to analyze problems and information, identify original connections or insights, and demonstrates ability to evaluate critically information, concepts, research studies, etc.	demonstrates a reasonable ability to analyze and critically evaluate problems, synthesize information and make connections	exhibits some critical thinking but often does not analyze problems and information deeply, make connections, or evaluate critically	generally fails to exhibit critical thinking, knowledge is mostly memorized without evaluation or synthesis, or critique is inaccurate or logically incorrect	HP P LP F
Communication	writes/speaks clearly, answers questions directly, well-organized with answers well-supported by specific information	writes/speaks reasonably well, answers questions directly most of the time, generally provides sufficient information in a logical order	writes/speaks in an understandable manner some of the time but some lapses in clarity, organization, or relevance of supporting information	writes/speaks unclearly much of the time, does not answer the question asked, makes frequent unsupported claims	HP P LP F

Attachment 4 Rubric for Thesis/Dissertation Proposal

Student Name: _____ Date: _____

Degree program (circle one): M.S. Ph.D.

Graduate Advisory Committee: _____ (chair)

_____, _____

_____, _____

	high pass	pass	low pass	fail	no basis
Research question is well-defined and objectives and hypotheses are clearly stated					
Research question provides a basis for making a significant contribution to the field.					
Literature review is current, comprehensive, and provides the relevant context for proposed research					
Proposal clearly and explicitly identifies and justifies the data requirements for answering the proposed question.					
The research plan is technically correct and adequate for collecting and analyzing the necessary data. The plan is sufficiently detailed and provides adequate justification for: o sampling design o methods of data acquisition o methods of data analysis o inference	 □ □ □ □	 □ □ □ □	 □ □ □ □	 □ □ □ □	 □ □ □ □
The proposal applies a critical perspective to this project and prior research in this area with regard to strengths, weaknesses, technical limitations, limits to inference.					
The written proposal is formatted in a manner appropriate to the discipline, uses citations correctly and effectively, and is written in a professional style.					
The oral arguments are clearly stated and convey a sufficient understanding of the research plan and the significance of the research to the field.					
Use of literature and proposed conduct of research meets ethical standards.					

Attachment 5 Rubric for Thesis/Dissertation Seminar

Student Name: _____ Date: _____

Degree program (circle one): M.S. Ph.D.

Graduate Advisory Committee: _____ (chair)

_____, _____

_____, _____

	high pass	pass	low pass	fail	no basis
Professionalism.					
Speaks clearly and at a suitable pace.					
Uses appropriate media effectively to aid communication.					
Presentation is well-organized.					
The research question, objectives, and hypotheses are clearly explained in a manner appropriate for the audience.					
The research is placed in the context of other research conducted on this and related problems.					
Methods are explained adequately at an appropriate level of detail.					
Results are presented in a clear and understandable manner.					
Logical inference leading to conclusions is clearly explained and justified.					
Applies a critical perspective to this project and prior research in this area with regard to strengths, weaknesses, technical limitations, limits to inference.					
Answers questions competently and professionally.					

Attachment 6 Rubric for Thesis/Dissertation

Student Name: _____ Date: _____

Degree program (circle one): M.S. Ph.D.

Graduate Advisory Committee: _____ (chair)

_____, _____

_____, _____

	high pass	pass	low pass	fail	no basis
The written thesis/dissertation is o formatted in a manner appropriate to the discipline, o uses citations correctly and effectively, o and is written in a professional style.	□ □ □	□ □ □	□ □ □	□ □ □	□ □ □
Research question is well-defined and objectives and hypotheses are clearly stated.					
Literature review is current, comprehensive, and provides the relevant context for the research.					
The literature is synthesized and evaluated critically in a manner that demonstrates a comprehensive understanding of the research question and its significance.					
Thesis/dissertation clearly and explicitly identifies and justifies the data requirements for answering the research question.					
Methods are technically correct and adequate for collecting and analyzing the necessary data. Methods are described in sufficient detail with adequate justification for: o sampling / experimental design o methods of data acquisition o methods of data analysis o inference	 □ □ □ □	 □ □ □ □	 □ □ □ □	 □ □ □ □	 □ □ □ □
Results are presented in a clear and understandable manner using appropriate format and level of detail.					
Tables and Figures are used effectively.					
Logical inference leading to conclusions is clearly explained and justified.					
Thesis/dissertation applies a critical perspective to the results and conclusions with regard to strengths, weaknesses, technical limitations, limits to inference.					
Conduct of research and use of literature meets ethical standards.					

Attachment 7: Rubric for Thesis/Dissertation Oral Defense

Student Name: _____ Date: _____

Degree program (circle one): M.S. Ph.D.

Graduate Advisory Committee: _____ (chair)

_____, _____

_____, _____

	high pass	pass	low pass	fail	no basis
Speaks clearly and answers questions directly					
Demonstrates a comprehensive understanding of the research question, including:					
o knowledge of prior research					
o ability to analyze the problem to identify data needs and logical connections					
o critically evaluate available information					
o understand broader significance of research					
Demonstrates mastery of the research techniques and statistical methods employed					
Provides sound and well-articulated arguments that conclusions are logical and well-justified					
Understands and addresses weaknesses or limitations of methods and inference					

Attachment 8: Graduate Program Student Survey

The Biology Department is currently reviewing our graduate programs and considering what, if any changes to make. It would be very useful to have the perspective and input of graduate students. Please answer any of the following questions on which you want to provide feedback. You will also have an opportunity to tell us anything else about the program on the back of this survey. You do not need to give your name. Responses will be collated and used in the aggregate to give us a sense of what you think works, what problems you would like to see addressed (perhaps for the benefit of future students), etc.

Biographical background

1. What is your degree program (circle one)? M.S. Ph.D.

2. How many semesters have you been at UND ? _____

3. What was the primary reason(s) you decided to pursue a graduate degree ?
   (circle all that apply. If you choose more than one, please rank with 1 = most important)
   a. professional qualification for career (non-academic) advancement
   b. interest in a particular field of research
   c. interest in possible academic career
   d. other
   _____

4. How many graduate schools did you apply to ? _____

5. Why did you choose to attend UND ?
   (circle all that apply. If you choose more than one, please rank with 1 = most important)
   a. opportunity to work on a specific project
   b. opportunity to work with specific faculty member
   c. there was already funding for the project I worked on
   c. already lived in or wanted to live in Grand Forks area
   d. personal (e.g. significant other had job in area or in school at UND)
   e. other
   _____

Program review

Please indicate your agreement or disagreement with the following statements regarding the following aspects of your graduate program.

	strongly disagree	disagree	neutral	agree	strongly agree	N/A
6. The department offered the coursework I needed						
7. Stipend support was adequate						
8. Financial support (from all sources other than out-of-pocket) for my research was adequate						
9. Access to computing resources was adequate						
10. Access to the necessary technology (non-computing) to conduct my research was adequate.						
11. My committee provided useful input in designing my program of study.						
12. My committee provided useful input in designing my research plan.						
13. (If you have taken your comprehensive exam) I found the exam to be a fair and reasonable assessment of my knowledge at that time.						
14. I am happy with the amount of statistical training I have/will receive(d) in my program.						
15. I am happy with the amount of training I have/will receive(d) in scientific writing in my program.						
16. I have had sufficient opportunity to learn how science is done.						
17. I have/will receive(d) adequate training in pedagogy (how to teach) in my time here.						
18. The program helped to foster my intellectual development						
19. The program helped me to prepare professionally for the next stage of my career.						
20. If you were supported on a GTA, the demands on my time associated with teaching were reasonable.						
21. Overall, I have been able to achieve my objectives to date and am generally satisfied with my experience in graduate school.						

Planning for the future

Please give us your opinion on the following issues under discussion by the faculty

	strongly disagree	disagree	neutral	agree	strongly agree	N/A
22. Students should receive training in the ethical conduct of science as part of their graduate program.						
23. Students should receive training in professional, scientific writing (i.e. preparation of manuscripts and grant proposals) as part of their graduate program.						
24. Students should receive training in statistical methods as part of their graduate program (above whatever they learned as undergrads).						
25. Students should be exposed to a broad range of current topics within their discipline (Ecology, Conservation and Evolutionary Biology, or Genetics, Cellular, and Developmental Biology) even if the topics fall outside of their immediate research area.						
26. There should be more structure to the graduate curriculum (more explicit sequence of courses that are included in a program of study, with the sequence depending on discipline).						
27. There should be more formal courses included in a program of study (assuming more courses existed).						

Please provide any written comments you might have about any aspect of your graduate program or the graduate program in Biology at UND. We would particularly appreciate input on any changes you might suggest regarding:

Grad student support:
Committee structure and function:
Assessment of graduate student progress:
Areas of instruction:
Course offerings and requirements: