BIOLOGY GRADUATE STUDENT HANDBOOK

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Table of Contents

A. INTRODUCTION

The major objectives of the Biology M.S. program are to provide the graduate student with (1) the course work necessary to develop a strong background in a subdiscipline of biology, (2) an opportunity to plan, conduct and report on an original research project, (3) an intellectual atmosphere under which faculty and students can exchange ideas, and (4) encouragement to become involved in professional scientific meetings. The goal of the graduate program is to provide educational institutions, government, industry and society with well-prepared, professional biologists.

The programs of graduate study in Biology have varying degrees of flexibility that allow the student's major advisor and guidance committee to build a program of study and research around the needs of the individual student, taking into account the student's previous background and future career goals. In addition to departmental requirements, the student must satisfactorily complete all University requirements as set forth in the Graduate Bulletin.

B. ADMISSION POLICIES

University and Departmental requirements for Regular Admission to the graduate program in biology:

Undergraduate degree with a major in the biological sciences.
Overall GPA of 3.0
Biology GPA of 3.0
GRE General Test Scores

A successful applicant will have a background in the following areas: Botany, Microbiology, Zoology, Cell Biology, Genetics, Ecology, and Plant or Animal Physiology. In addition, a year of Inorganic Chemistry with lab and a year of Organic Chemistry with lab are needed. Graduate students granted conditional admission must petition for Regular admission after deficiencies have been removed. Application forms for regular admission are available at the School of Graduate Studies and on the departmental web site (http://www.cst.cmich.edu/units/bio/grad.htm).

C. PROGRESS TOWARD A DEGREE

Graduate students in the Biology Department are expected to complete their Master's degree in 4-5 semesters. To complete the MS degree in a timely fashion, students should adhere closely to the schedule listed below. Plan A graduate students are advised to take a heavy course load during their first 2 semesters so that they can devote more time to data collection, data analysis and thesis writing during summers and semesters 3-5. Students who do not make satisfactory progress toward a degree will not be eligible for a departmental teaching assistantship.

Graduate Program Schedule

Semester	Program Requirements	Form	Plan A cr. hrs.	Plan B cr. hrs.
1	1. Choose advisor (wk 2) 2. Form committee 3. Select course plan	Advisor Selection (BIO office) Committee Selection (BIO office) Authorization of Degree(GRAD office)	9	9
2	1. Complete prospectus 2. Reapply for GTA 3. IACUC approval	Prospectus for Thesis (GRAD office) Reappointment application (BIO office) IACUC Project Review (ORSP)	9	9
3	Committee meeting		6	9
4	1. Thesis (week 6) 2. Seminar 3. Oral or written exam 4. Bound thesis 5. Department checkout	None Committee Reminder Plan A/B Sign-off (GRAD office) Thesis check list (GRAD office) Check list (BIO office)	6	9
Total			**30**	**36**

1. **Selection of a Major Advisor** -- Graduate students should select a major advisor prior to the start of the first semester and must do do by the second week of their first semester of course work. The Graduate Coordinator will assist the student in selection of a major advisor who complements the student's academic and/or research emphasis. The graduate student must complete a *Graduate Advisor Selection* form (available in Biology Department office). This assignment need not be permanent. If the student's emphasis changes, a new major advisor can be selected. The Graduate Coordinator and the Department Chairperson must, however, be notified in writing by the student of any change in major advisor.
2. **Selection of a Guidance Committee** -- Students must select a Guidance Committee in consultation with their advisor, during the first semester of course work. The Committee will consist of the student's major advisor plus two additional members of the graduate faculty. A graduate faculty member from a cognate area may serve as one of three committee members. The Guidance Committee will review and approve the student's course requirements and research program. The Committee will administer a final oral and/or written exam. The graduate student must complete a *Graduate Committee Selection* form (Form IV; available in Biology Department office).
3. **Selection of Academic Program** -- In consultation with the Guidance Committee, the student must choose a program of course work and decide between pursuing either the Plan A or Plan B degree. An Authorization of Graduate Degree Program (Form V - GR-303) must then be completed in consultation with the advisor, and filed with the

School of Graduate Studies and the Biology Department office. This form must be completed during the student's first semester on campus.

4. **Prospectus –** A draft of the thesis should be completed by the end of the first semester. The prospectus must be approved by the student's major advisor and submitted to the Department Office by the third Monday in February of the second semester. It is understood that some students will continue to revise their prospecuts as they progress through their second semester and into the summer.

D. ACADEMIC PROGRAM FOR M.S. DEGREE

1. **Plan A degree requirements**

   a. Course requirements -- A minimum of 30 semester hours of approved graduate course work must be completed; 15 of these hours must be at the 600 level or above. These 30 hours may include BIO 500, BIO 630, 6 hours of Thesis (BIO 798) and 1 hour of Seminar (BIO 730). Credit in BIO 790 (Research in Biology) cannot be applied to a Plan A degree. No more than 1/3 of the student's graduate course work may be earned in unspecified content courses, i.e., BIO 594, 597, 610, 620 unless approval is given. Up to 10 hours may be earned in cognate areas. Candidates for this degree may transfer a maximum of 15 credit hours of approved graduate credit from other institutions. All degree requirements must be completed within seven years after admission to the program.

   b. Thesis requirements -- The Biology Department requires that a prospectus, as well as Form VII (GS-18), signed by all members of the student's Thesis Committee be on file in the Biology office before the student enrolls in Thesis (BIO 798).

      All graduate students using vertebrates in their research must have IACUC approval for the use and care of animals before any work can begin.

      All graduate students using humans in their research must have IRB approval of their research before any work can begin.

      A Preparation Guide for Thesis, Field Study, or Dissertation compiled by the Dean of the School of Graduate Studies is available at the University Center Bookstore. Major headings for biological theses need not be designated by "chapters". Literature citations should follow the CBE Style Manual (1972, AIBS). Students should present near-final drafts of the thesis to each member of their committee at least four weeks prior to the expected date of the final oral examination. Form IX must be completed when the Thesis Committee accepts the thesis in its final form.

   c Final oral examination -- The examination committee consists of the Guidance Committee, but any member of the graduate faculty can attend the examination. An announcement of the exam must be posted on the Faculty Bulletin Board in the Biology Office one week prior to the exam date. The examination generally includes the student's defense of his thesis work, but any aspect of the student's graduate program is open for discussion. This exam should generally be scheduled during fall or winter semester, when faculty are available. Form X (GR-309) must be completed and distributed upon completion of the final oral examination.

d. Bound copies of thesis -- Following acceptance of the thesis in its final form, the student must make arrangements with the CMU Press for binding of the thesis. A minimum of three bound copies are required to be distributed as follows: 1 copy to the School of Graduate Studies for placement in the CMU Library, 1 copy to the Biology Department office, and 1 copy for the student's major advisor. If the student's research was conducted at the CMU Biological Station on Beaver Island or at Neithercut Woodlands, an additional bound copy is required for that facility. Additional bound copies are optional. One unbound copy is to be submitted for microfilming.

e. Upon completion of all degree requirements, Form XI (Checkout List) must be completed and on file in the Biology Department office.

2. **Plan B degree requirements**

Plan B consists primarily of course work, requires no thesis, but must include additional significant evidence of scholarship, such as research, independent studies, internships, field studies, or practica and/or creative or artistic ability which the department of the field of specialization my wish to prescribe.

a. Course requirements -- A minimum of 36 semester hours of approved graduate course work must be completed with at least 15 of these hours at the 600 level or above. Up to 10 hours may be in one or more cognate areas. No more than 1/3 of the student's graduate course work may be earned in unspecified content courses, i.e. BIO 594, 597, 610, 620. A course in statistics is recommended. Candidates for this degree may transfer a maximum of 15 credit hours of approved graduate credit from other institutions. All degree requirements must be completed within seven years after admission to the program. Credit earned in BIO 798 (Thesis) may not be applied to this degree.

b. Final examination -- The content and type of final examination for the Plan B student will be determined by the Guidance Committee at the time that the Authorization for the Graduate Degree Program form is completed. It may be an oral or written examination and it may cover course and/or research material. An announcement of the exam must be posted on the Faculty Bulletin Board in the Biology Office one week prior to the exam date. This exam should generally be scheduled during fall or winter semester, when faculty members are available. Form X (GR-309) must be completed upon completion of the examination.

c. Upon completion of all degree requirements, Form XI (Checkout List) must be completed and on file in the Biology Department Office.

E. ACADEMIC STANDARDS

Graduate students are expected to maintain a 3.0 or better GPA in their graduate program. If semester GPA falls below a 3.0, the Graduate School will place the student on academic probation. A GPA below 3.0 for two consecutive semesters is sufficient justification for removing a student from degree candidacy or for removing financial assistance.

F. ACADEMIC LOAD

The normal academic load for a graduate assistant is 6-10 hours. Graduate teaching assistants and research assistantships must be registered for at least 6 hours of graduate credit during each term they hold an appointment.

G. RESPONSIBILITES OF THE GRADUATE STUDENT

1. Meet regularly with your major advisor and thesis committee.
2. Read the literature in your field of research.
3. Complete required courses maintaining a GPA> 3.0.
4. Complete your thesis (or Plan B paper) and submit manuscripts for publication.
5. Present your results at local, state and/or national meetings.
6. Become an independent, critical thinker. Use library resources, experimental results, and advice from fellow graduate students.
7. Work Expectations.
    a. RA and TA require 20 hours per week.
    b. Course work = 3 hours for every credit hour (ex: 3x9=27).
    c. Thesis work
8. Maintain clean, safe laboratory and work environment.
9. Be responsible for appropriate training (boating safety, chemical safety, CPR, etc.)
10. Assist others in the laboratory, especially new graduate and undergraduate students.
11. Apply for funding from different sources to support your research and travel.
12. Attend departmental seminars and other relevant presentations and functions.
13. Remember that enthusiasm, optimism and dedication toward your research are important!

H. RESPONSIBILITIES OF THE MAJOR ADVISOR

The graduate advisor is responsible for all phases of the student's program of study. It is of the utmost importance that a good channel of communication be open between the advisor and student. All problems and questions should be brought to the attention of the advisor first before seeking assistance elsewhere.

1. Meet regularly with graduate students to assess progress.
2. Discuss overall program of study and course requirements with graduate students.
3. Discuss expectations regarding thesis research projects, time table, publication, etc.
4. Help graduate students choose a thesis committee.
5. Acquaint students with laboratory and its policies.
6. Assist with experimental protocol, data analysis, scientific writing, and seminar preparation.

7. Help fund graduate student research.
8. Provide feedback on proposals, manuscripts, posters, etc., in a timely manner.
9. Encourage students to attend professional meetings.
10. Ensure that necessary research equipment is available and in working order.

I. FINANCIAL ASSISTANCE

1. Graduate Assistantships

   Both research and teaching assistantships are available through the Biology Department each academic year. Tuition for up to 20 credits per year is waived for full-time graduate assistants.

   Research Assistantships: Individual faculty members offer students summer and academic year RA's funded through grants and contracts. The Department provides additional summer RA's through a grant competition announced in March.

   Teaching Assistantships: New and returning graduate students must apply for teaching assistantships. The application deadline for teaching assistantships (Form II) is generally February 15 for the following academic year. Applications can, however, be placed on file at any time but priority is given to applications received before the deadline. Generally, students may be awarded graduate teaching assistantships for a maximum of four semesters, excluding summers. However, based on Departmental needs a fifth semester teaching assistantship may be awarded to students making adequate progress. Minimum requirements for appointment or reappointment as a GTA are given on Form II.

2. Graduate Fellowship

   The University offers a limited number of graduate fellowships and Biology graduate students are encouraged to apply for these fellowships. Tuition for up to 24 hours per year is waived for graduate fellows. Applications for graduate fellowships (Form III - GR-702) are available from the School of Graduate Studies. Applications for fellowships awarded through federal agencies can be obtained through the Office of Instruction and Research, Warriner 354.

3. Scholarships

   The Biology Department offers three scholarships that can be used to support graduate student research and classes. Contact the Biology Department office for further details.

   BIOLOGICAL STATION SCHOLARSHIP

   These tuition scholarships are awarded to students who enroll for Biology summer classes at our Biological Station on Beaver Island, MI Undergraduate and graduate students are eligible to apply for tuition remission for one class each summer.

MARION WHITNEY SUMMER GRADUATE SCHOLARSHIP

Purpose: To recognize an outstanding graduate student who is completing a thesis in zoology. The award may be used to support the graduate student in the summer. *Qualifications*: Applicants must be graduate students in the area of zoology admitted to and enrolled at CMU, who have completed at least 6 graduate credit hours with a GPA of 3.5 or better. Student must be pursuing Plan A (thesis) and provide a research prospectus with the application.

DANIEL E. & MILDRED G. WUJEK SCHOLARSHIP

Purpose: To recognize outstanding second-year botany or aquatic biology graduate students who have been identified as worthy of distinction. The award may be used for tuition, books, room and board at a biological station, research logistics support and/or supplies in support of research. *Qualifications:* Applicants must be second-year graduate students in botany or aquatic biology admitted to and enrolled at CMU with an earned GPA of al least 3.0 based on a 4.0 scale. $650 non-renewable.

4. Funding to support research

   Graduate students can request financial assistance for research expenses from the School of Graduate studies. Application is made on Form VIII (GS-23) available from the Biology Department office or the School of Graduate Studies, with applications due on the 3rd Monday in September and the 2nd Monday in February. The research prospectus must be on file when the request is submitted.

5. Funding to support travel

   If a graduate student is planning to travel to regional, national or international meeting to present results of CMU research, funding is available from the School of Graduate Studies, the Dean of the College of Science and Technology and the Department of Biology. The student should complete the form at the ORSP website; upon approval from ORSP, the forms should be forwarded to the Department and College for approval.

J. CMU BIOLOGY GRADUATE STUDENT ASSOCIATION

The CMU-BGSA welcomes all biology graduate students. This informal organization meets as necessary to discuss problems that affect the biology graduate student, especially in regard to curricula, available equipment for research, faculty proceedings, and faculty-student interaction. New biology graduate students are encouraged to attend the meetings to help acquaint them with other students and to become familiar with the programs in the department.

K. BIOLOGICAL FIELD STATIONS

The Department of Biology is directly involved with two outdoor laboratory facilities plus other University properties.

1. CMU Biological Station on Beaver Island -- The CMU Biological Station is on 43 acres (17.3 ha.) of land on the east shore of Beaver Island. The island is in northern Lake Michigan about 32 miles (51.5 km) northwest of Charlevoix. It is 14 miles (22.5 km) long and 6.5 miles (10.5 km) wide with an area of 70 square miles (181.3 km). The seven inland lakes range from acid to alkaline. Numerous beaver dams, swamps, bogs, and Lake Michigan make this an ideal location for aquatic ecology and limnological studies. The terrestrial habitats range from the beech-maple climax forest on the west shore to the cedar swamps and sand dunes on the east shore. Numerous abandoned farms provide areas for study of plant succession. State forest lands that are little disturbed by man provide many areas for study. The instructional program is designed to meet the needs of biology and general science teachers, graduate and undergraduate biology majors. A student may complete the requirements for the M.S. degree in biology at the station during summer sessions.
2. Neithercut Woodlands -- Neithercut Woodlands is located 25 miles (40.2 km) north of campus. The 252 acres (102 ha) of varied habitat includes northern hardwood and aspen forests of various ages, cedar swamps, fields and meadows, conifer plantations, beaver flowages, a trout stream, and many vernal ponds. Research and independent study opportunities at Neithercut Woodlands are limited only by one's imagination.
3. Other University properties -- Include Veit's Woods near campus; Stevenson Lake (80 acres or 32 ha.) 15 minutes from campus.

L. ACADEMIC INTEGRITY POLICY FOR GRADUATE STUDENTS IN THE DEPARTMENT OF BIOLOGY

Because academic integrity and ethical behavior are vital to an academic environment and to the development of qualified biologists, graduate students are responsible for learning and upholding professional standards of research, writing, assessment, and ethics in Biological Sciences. In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. Written or other work which a student submits must be the product of his/her own efforts and must be consistent with appropriate standards of professional ethics. Academic dishonesty, which includes plagiarism, cheating, and other forms of dishonest behavior, is prohibited. Ethical standards must be observed by all graduate students. Allegations of academic dishonesty or unethical behavior will be handled according to the policies given here. Appeals of decisions are processed according to the policies set forth in the "Academic Integrity Policy for Graduate Students", which is published in the Graduate Bulletin.

Although no specific time lines are included in this policy, it is understood that matters should be handled expeditiously.

1. In cases where an instructor, supervisor, or fellow student believes a students has demonstrated academic dishonesty or professionally unethical behavior, the instructor, supervisor, or fellow student should report the incident to the department chairperson.

2. The department chairperson will discuss the allegations with the person(s) making them. If the department chairperson believes that there is evidence to support the allegations, the chairperson will notify the student of the charges, in writing.

3. In the letter to the student, he/she will be told the allegations and told that a faculty committee consisting of three graduate faculty will be asked to review the allegations, look at the evidence, and determine what, if any, sanctions should be issued. The student will be offered the opportunity to admit to the violations, remain silent, meet with the committee to share his/her perceptions of the incident, or submit a written rebuttal to the charges. The student will be given a response deadline, at least two weeks in the future.

4. The standing graduate committee within the Biology Department will review allegations of academic dishonesty or unethical behavior. In any case where a member of the committee made the original allegations, the department chairperson will appoint another graduate faculty member to serve on the committee in judging the particular case.

5. If the student elects to meet the graduate committee to present his/her version of the events under investigation, the student may bring another person (but not a lawyer) to the meeting to provide support and advice.

6. The graduate committee's decision on culpability and appropriate sanctions will be communicated in writing to the department chairperson. If the student is found not culpable or if sanctions, other than dismissal or suspension from the program, are issued, this will be communicated in writing by the department chairperson to the student.

7. If the sanction is dismissal or suspension from the program, the sanction will be communicated by the department chairperson to the Dean of Graduate Studies who will communicate the decision to the student.

8. If sanctions are issued, committee records will be retained for at least one year.

M. POLICY ON RESEARCH INTEGRITY

Integrity in research and creative endeavors is at the heart of many academic endeavors and a fundamental principle of the university community. Faculty, staff, students, and independent contractors all have a responsibility to assure that research and creative endeavors meet accepted standards of scholarly performance. The increasing complexity of the research and creative process, the requirements of federal and state agencies, and the accountability of university personnel to colleagues, students, the university, and the larger community necessitate that CMU specify an acceptable code of conduct, provide a mechanism for investigating alleged violations of accepted standards, delineate appropriate sanctions for faculty, staff, students, and independent contractors, and assure that corrections to the public record follow any discovery of misconduct.

Following is the policy for dealing with allegations of research misconduct at Central Michigan University.

GENERAL PROVISIONS

A. Applicability
   1. This policy shall apply to all faculty, staff, students, and independent contractors involved in research **or** creative endeavors.
   2. Nothing in this policy is intended to diminish or waive an individual's rights under any applicable collective bargaining agreement to which CMU is a party, or other university policies and procedures.
   3. This policy shall apply to students involved in the following research and creative endeavors:
      (a) Those conducted jointly with a CMU faculty or staff member or with any person from another university,
      (b) Those externally funded under a grant or contract to CMU or one or more of its employees,
      (c) Those expected to be published, presented, or shared with the broader academic community outside the student's classroom,

(d) Those done in conjunction with a thesis or dissertation, and
(e) Those done in conjunction with a graduate Plan B paper, which also satisfy Paragraph 3.a, 3.b, or 3.c.

Except as noted above, this policy does not apply to a student's class assignments, independent study projects, Plan B papers, or directed research work which is not expected to be submitted for publication, presentation, or sharing with a community of scholars other than the members of the class.

In cases where it is unclear whether this policy or a different university policy should be followed for an allegation against a student, the Assistant Vice President for Research shall have the responsibility for determining which policy shall apply.

B. Research Misconduct
"Research misconduct" shall mean, for the purposes of this policy, fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scholarly community for proposing, conducting, or reporting research and creative endeavors. It does not include honest error or honest differences in interpretations or judgments of data.

Research misconduct consists of, but is not limited to, commission of one of the following:

1. Falsification of data, including fabrication of data, selective reporting of data, and manipulation of experiments, statistical procedures or analytical procedures, with the intent to deceive.
2. Improper assignment of authorship, such as excluding other contributors or claiming the work of another person as one's own, presenting substantially the same materials as an

original article in more than one publication, including individuals as authors who have not made a definite contribution to the work published, and submitting multi-authored publications without the concurrence of all authors.

3. Claiming another person's research as one's own, including plagiarism, appropriation of ideas as expressed in grant proposals or articles received for peer review, or in student papers, and violation of intellectual property laws.
4. Misappropriation of research funds, including expenditure of funds (a) for purposes not appropriately related to the research or (b) in ways explicitly prohibited by the internal or external funding source.

C. "CMU" shall mean, for purposes of this policy, the administration of Central Michigan University. ,

D. "Day" shall mean, for purposes of this policy, a calendar day.

E. Responsibilities

1. All members of the academic community are encouraged to report research misconduct if and when they believe substantive evidence exists. Persons who in good faith report alleged misconduct will be protected, to the maximum extent possible, against personal and institutional reprisals.
2. The mere suspicion or allegation of wrongdoing, even if totally unjustified, is potentially damaging to an individual's career. Consequently, no information about charges of alleged misconduct in research may be disclosed except to the appropriate CMU and federal or state authorities or as otherwise required by law.
3. When an allegation related to research misconduct has been directed at an individual, that individual must, in a timely fashion, be advised in writing of the nature of the allegation. The individual must be offered an opportunity to present information to CMU before a decision is made. The affected individual must be afforded confidential treatment to the extent possible and a prompt and thorough investigation consistent with any applicable collective bargaining agreement, or other university policies and procedures. An individual shall have the right to have a representative of the applicable collective bargaining unit, employee group or student group present when the individual meets with the representatives of CMU or any inquiry or investigative bodies in connection with the allegation made.
4. The Assistant Vice President for Research is responsible for coordinating and implementing this policy, disseminating this policy to all faculty and to others involved in research or creative endeavors, maintaining all documents and records relating to this policy, and obtaining and keeping current any and all assurances of compliance with federal and state regulations pertaining to misconduct.

PROCEDURES FOR HANDLING ALLEGATIONS OF MISCONDUCT

A. The Inquiry Stage

1. Inquiry is the stage of the review process where factual information is gathered and reviewed to determine if an investigation of the allegation is warranted. An inquiry is not
a formal investigation; its purpose is to separate allegations deserving of further investigation from frivolous, unjustified or clearly mistaken allegations.
2. Before making a written allegation, a person is encouraged to discuss the matter with the Assistant Vice President for Research. The Assistant Vice President for Research will advise the person about responsibilities and rights under this policy, and the procedure that shall be followed once an allegation is formally presented.
3. An allegation against any faculty, staff, student, or independent contractor for

misconduct in research or creative endeavors shall be submitted in writing to the Assistant Vice President

for Research. An allegation may be submitted by any person, including the Assistant Vice President for Research. The identity of a person making an allegation shall remain confidential so long as such confidentiality does not compromise the inquiry or due process or contractual rights of the individual against whom an allegation has been filed.

4. The Assistant Vice President for Research shall notify the individual against whom an allegation is made and the appropriate supervisor. In the Academic Affairs Division, the dean of the college should be notified concerning an inquiry, and the dean may inform the appropriate chairperson.
5. The Assistant Vice President for Research, in consultation with the supervisor, or their designees, is responsible for conducting an inquiry regarding the allegation. The purpose of this inquiry is to determine whether an investigation is warranted. The Assistant Vice President for Research will be responsible for preparing a written report at the conclusion of the inquiry. The report must include a description of the evidence reviewed, a list and summary of interviews, and a recommendation as to whether an investigation is warranted. The individual against whom the allegation was made shall be given a copy of the report, and he/she may respond in writing about any part of the inquiry. This response shall become part of the inquiry report.
6. The inquiry stage must be completed within 60 days of receipt of the written allegation unless circumstances clearly warrant a longer period. If the inquiry takes longer than 60 days to complete, the written inquiry report shall include documentation of the reasons for extending the 60 day period.
7. Upon completion of the inquiry, the Assistant Vice President for Research shall forward the report (as specified in Paragraph II.A.5.) to the Provost. If the Provost concludes that no misconduct has occurred, the issue will be dropped. If the Provost suspects that research misconduct has occurred, he/she shall initiate an investigation.
8. The Assistant Vice President for Research shall maintain sufficiently detailed documentation of inquiries. The documentation shall be used only where required by law, to assist in the defense of the University and/or its employees in legal actions, and to assist in responding to duplicative claims of research misconduct. Such records shall be maintained in a place and manner calculated to provide maximum confidentiality.

B. The Investigative Stage

1. Where an investigation is warranted, the Provost shall commence an investigation within 30 days of the receipt of the inquiry report.
2. Where required by regulations or law, the Provost will inform appropriate state and federal agencies that an investigation is to be conducted. The Provost will take any interim steps that he/she deems necessary to protect

university, state, or federal funds and property.

3. The Provost shall appoint an Investigative Committee. The Investigative Committee should contain members who have the appropriate expertise to carry out a thorough search for and an authoritative evaluation of the relevant evidence. The committee may include members or consultants from outside the university community having appropriate substantive expertise if such expertise is not present within the university community or if a conflict of interest could arise from appointing a member of the university community to evaluate the evidence.
4. The Provost will appoint the chair of the Investigative Committee. The Assistant Vice President for Research or her/his designee shall serve as secretary and be responsible for maintaining committee minutes and detailed records of all documentary evidence.
5. The investigation normally will include examination of all documentation including, but not necessarily limited to, relevant research data and proposals, publications, correspondence, and memoranda of telephone calls. Whenever possible, interviews shall be conducted with all individuals either involved in making the allegation or against whom the allegation is made. In addition, every effort should be made to interview others who might have information regarding relevant aspects of the allegation. The individual against whom the allegation was made shall have the right to have a representative of the applicable collective bargaining unit, employee group or student group present in interviews in which he/she may be asked or required to be involved.
6. Before the Investigative Committee makes its final recommendation, the individual against whom the allegation was made shall be given a copy of the Committee's report, and he/she may respond in writing to any part of the investigation and report. This response shall be a part of the investigative report.
7. The investigation should be conducted and completed within 90 days of its initiation. If the report cannot be completed within 90 days, the Provost may request an interim report and an explanation for the delay. The Provost shall notify the individual against whom the allegation has been made of the delay and of the probable date of completion.
8. When completed, the Investigative Committee shall prepare for the Provost a written report containing its findings, with evidence attached, and its recommendations as to whether the allegation is supported by the evidence. The comments of the individual against whom an allegation was made shall be part of the investigative report forwarded to the Provost.

C. Complying with Federal and State Regulations

1. During the inquiry and investigative stages, CMU will comply with all

applicable federal and state regulations governing allegations of research misconduct. For example, all Public Health Service grants require that the Office of Research Integrity (ORI) be notified of the following: the decision to begin an investigation, including the name of the person against whom the allegation is made, the general nature of the allegation, and the PHS application or grant number; termination of an inquiry or investigation before completion; any developments during the investigation which may affect funding for the individual under investigation or that PHS needs to know to ensure appropriate use of federal funds and protect the public interest; if any stage of the inquiry or investigation reveals that any of the following conditions exist: (a) there is an immediate health hazard involved; (b) there is an immediate need to protect federal funds or equipment; (c) there is an immediate need to protect the interests of the person making the allegation or of the individual who is the subject of the allegation as well as her/his co-investigators and associates, if any; (d) it is probable that the alleged incident is going to be reported publicly; or (e) there is a reasonable indication of possible criminal violation. Public Health Service grants also require that all documentation substantiating findings of an investigation must be made available to ORI, and that ORI must approve any extension of the period for completing an investigation beyond 120 days, and that a final report shall be submitted to ORI. Federal regulations also require that, for federally sponsored projects, the institution must take appropriate interim action to protect federal funds. This might include suspending an investigator from a research project while an investigation is being carried out.

RESOLUTION

A. Absence of Misconduct

1. If the result of the investigation reveals that the allegation of misconduct is not substantially supported by the evidence, the Provost shall notify in writing the individual against whom the allegation was made. In making any further announcement, the Provost should consult with the individual who was the subject of the allegation to determine whether the announcement should be public or selective and what organizations should receive information about the findings. The Provost should be guided by whether a public announcement will be helpful or cause further harm in restoring the reputation of an individual against whom an unfounded allegation was made.
2. Irrespective of the results of any inquiry or investigation, if an allegation was made in good faith, the Provost will ensure that no disciplinary action is taken against the person making the allegation and will make diligent efforts to prevent retaliatory action.
3. If, during the course of any inquiry or investigation, it is determined that an allegation of misconduct was not made in good faith, the Provost shall initiate appropriate action against the person making such an allegation.
4. If the allegation of research misconduct against an individual is not supported during the inquiry or investigative stage, records of the inquiry or investigation will be maintained by the Assistant Vice President for Research. The documentation shall be used only where required by law or to assist in the defense of the University and/or its employees in responding to duplicative claims of research misconduct. No records of the inquiry or investigation will be maintained in official CMU personnel files pertaining to that individual.

B. Presence of Misconduct

1. Upon completion of the investigation, and prior to CMU issuing its written decision regarding what disciplinary action to take, the following procedures shall be followed:
   (a) The Provost will offer the individual against whom an allegation has been made an opportunity to meet with her/him. If the individual against whom an allegation has been made requests such a meeting, at the meeting the Provost will share with the individual notice of the action he/she intends to take and an explanation of the evidence in support of the proposed action. The individual against whom an allegation has been made shall be given an opportunity to present her/his view of the matter along with any evidence he/she considers relevant to the proposed action.
   (b) At the conclusion of any meeting conducted pursuant to Paragraph 2. (a), the Provost shall offer the individual against whom an allegation has been made two (2) weeks to file a written response to the

proposed action. An election by the individual not to respond shall not be interpreted as an admission of, or agreement with, any of the information provided by the Provost.

2. The Provost shall provide to the individual against whom an allegation has been made a written decision regarding what disciplinary action, if any, is to be taken, together with her/his rationale for the decision.
3. Disciplinary actions will be based on just cause and may include, but are not limited to:
   (a) Removal from the research project;
   (b) Written reprimand;
   (c) Financial restitution of grant funds;
   (d) Denial of access to university research funds;
   (e) Notification to journal editors, book publishers;
   (f) Notification to professional organizations;
   (g) Suspension from the university; and/or
   (h) Separation from the university.

4. The Provost shall make a decision and take action within 30 days from the receipt of the Investigative Committee's report.
5. When there is a finding of research misconduct, the Provost will promptly notify the university supervisor, federal and state agencies where required by law, the person who made the allegation, and organizations informed of the investigation.
6. In any disciplinary action, the grievance and hearing provisions of any applicable collective bargaining agreements, Academic Senate grievance procedures, and other university policies or procedures will be strictly adhered to. A challenge (i.e., an appeal or a grievance) to the disciplinary action may be made under one university procedure only.
7. The Assistant Vice President for Research will maintain the records of the investigation where there is a finding of research misconduct.

Approved by: Leonard E. Plachta, President

Date: 6/26/95

NOTE: This document is based upon several sources from which language is taken in whole or in part to fit the situation at Central Michigan University:

Department of Health and Human Services, Responsibilities of Awardee and Applicant Institutions for Dealing with Reporting Possible Misconduct in Science, Federal Register, Vol. 54, No. 151, August 8, 1989, pp. 3244632451.

Guidelines for the Conduct of Research at the National Institutes of Health, 1991.

1996-1999 Agreement between CMU and the Central Michigan University Faculty Association.

National Science Foundation regulations on misconduct in science and engineering research (45 CFR Part 689).

Policy on Integrity in Research, Executive Memorandum No. C-22, Purdue University, September, 1991.

Policy on Misconduct in Research, Bowling Green State University, November, 1990.

Research Integrity at Northern Illinois University, Spring, 1991.

University Policy Regarding Misconduct in Research and Scholarship, Kent State University, June, 1989.

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BIOLOGY DEPARTMENT

GRADUATE FACULTY

- **ELIZABETH ALM**, Professor, Ph D., University of Illinois. Microbial Ecology, Environmental Microbiology
- **ROBERT E. BAILEY**, Professor, Ph.D., Indiana University. Quaternary paleoecology, ecological systems analysis, environmental impact assessment.
- **GREGORY M. COLORES**, Assistant Professor, Ph.D., University of Colorado. Microbial Ecology, Soil Microbiology, Biodegradation
- **JOANNE DANNENHOFFER**, Associate Professor, Ph.D., University of Wisconsin. Molecular biology, biochemistry, genetics and microscopy applied to studies of protein deposition in maize endosperm and phloem proteins.
- **CLAUDIA B. DOUGLASS**, Professor and Chair, Ph.D., Purdue. Biology education, Cognitive style and the development of curricula including environmental education.
- **TRACY GALAROWICZ**, Assistant Professor, Ph.D. University of Illinois. Fish Ecology and Management.
- **THOMAS M. GEHRING,** Associate Professor, Ph.D., Purdue University. GIS applications, landscape ecology, management of wildlife-human conflicts, predator-prey ecology, wildlife conservation.
- **JAMES C. GILLINGHAM**, Professor, Ph.D., University of Oklahoma. Behavior and ecology of reptiles and amphibians.
- **STEVEN W. GORSICH,** Assistant Professor, Ph.D., University of Utah. Genetics, cell biology, and molecular biology of yeast mitochondria maintenance and stress tolerance.
- **MICHAEL J. HAMAS**, Professor, Ph.D., University of Minnesota. Ecology, ornithology, conservation biology.
- **PHILIP L. HERTZLER**, Associate Professor, Ph.D., University of California, Davis. Developmental biology of aquatic and marine invertebrates.
- **STEPHEN J. JURIS**, Assistant Professor, Ph.D., University of Michigan. Toxin biochemistry, molecular mechanisms of bacterial pathogenesis, cellular biology of host-pathogen interactions
- **JONATHAN KELTY**, Assistant Professor, Ph.D., Miami University, Oxford Ohio, Neurobiology, neural control of respiration, environmental physiology.
- **DONNA KING**, Associate Professor, Ph.D., Michigan State University. Algae, stream ecology.

- **PETER S. KOURTEV**, Assistant Professor, Ph.D., Rutgers, The State University of New Jersey. Structure and function of microbial communities in the environment.
- **DEBRA LINTON**, Assistant Professor, Ph.D., Rutgers, The State University of New Jersey. Ecology, Biology education.
- **ERIC W. LINTON**, Assistant Professor, Ph.D., Rutgers, The State University of New Jersey. Bioinformatics, eukaryotic microbiology and systematics.
- **FRED M. McCORKLE**, Professor, Ph.D., Mississippi State University. Developmental and comparative immunology of avian species.
- **SCOTT McNAUGHT**, Associate Professor and Graduate Coordinator, Ph.D., University of Michigan. Director, Michigan Water Research Center. Limnology, zooplankton and larval fish ecology, statistics.
- **ANNA MONFILS**, Assistant Professor, Ph.D., Michigan State University. Plant Biology, Botany and Systematics.
- **KIRSTEN E. NICHOLSON,** Curator of Natural History and Assistant Professor, Ph.D, University of Miami. Evolution and systematics of vertebrates, particularly reptiles and amphibians; museum studies.
- **CHARLES E. NOVITSKI**, Associate Professor, Ph.D., California Institute of Technology. Eukaryotic molecular biology, recombinant DNA technology, plant nematode development.
- **JOHN I. SCHEIDE**, Associate Professor, Ph.D., Louisiana State University. Mechanism and regulation of ion transport in cells and tissues of vertebrate and invertebrate species.
- **JENNIFER SCHISA,** Assistant Professor, Ph.D., SUNY at Story Brook. Genetics, molecular biology, and microscopy applied to studies of germ cells in the nematode, *C. elegans*.
- **NANCY SEEFELT**, Instructor, Ph.D., Michigan State University, Ecology and evolution of vertebrates, museum studies.
- **MICHELLE L. STEINHILB**, Assistant Professor, Ph.D., University of Michigan. Genetic models of human neurodegenerative disease, cellular and molecular neurobiology.
- **BRAD SWANSON**, Assistant Professor, Ph.D., Purdue University. Ecology, molecular ecology, conservation biology, population genetics, population dynamics, animal behavior