# GRADUATE PROGRAM HANDBOOK

# Interdisciplinary Ph.D. Program in Nutrition

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# **PREFACE**

This handbook was designed to provide information for doctoral students and faculty associated with The Ohio State University Interdisciplinary Ph.D. in Nutrition Program (OSUN). The guidelines for the OSUN Program are in accordance with the rules and policies of The Ohio State University Graduate School. These rules and policies are outlined in the Graduate School Handbook, which is available from the Graduate School at <a href="http://gradsch.osu.edu/">http://gradsch.osu.edu/</a>. In general, OSUN Program guidelines, as presented herein, define, or extend Graduate School policies as they relate specifically to graduate students and faculty in the OSUN Program. Where no specific policy has been stated, the Graduate School regulations apply. Faculty and students should be familiar with both handbooks. This handbook was prepared by extracting selected information from the Graduate School Handbook, the OSUN Charter, and graduate handbooks prepared by similar programs.

#### **SECTION 1 - INTRODUCTION**

# **Program Overview**

The Ohio State University Nutrition (OSUN) Ph.D. Program is a cooperative effort involving three colleges at OSU; Education and Human Ecology (EHE); Food, Agricultural and Environmental Sciences (FAES); and the College of Medicine (COM). The Provost appoints the Dean of one of these colleges as the Lead Dean. Currently, the Dean of EHE, Donald Pope-Davis, serves in this position. This Interdisciplinary Program was established in 1996. Doctoral students in the OSUN Graduate Program will acquire the skills and abilities needed for successful careers in nutrition. The goal of the OSUN Ph.D. Program is to provide a solid foundation in basic sciences with an integrated approach to problem solving. Traditional course work, research problems, seminars, and research group discussions all emphasize the disciplines in which successful graduate students in nutrition must be fluent in order to make significant contributions in rewarding careers.

# **Graduate Faculty Membership**

Criteria for membership of faculty members who are eligible for current Category P status include graduate training in nutrition science or a related area, membership in at least one nationally recognized professional organization related to publishing nutrition research, and the development of an active research program in nutrition as evidenced by publications and funding. Admission to the OSUN Graduate Program is by nomination of an individual from an OSUN faculty member, submission of a CV and statement for the basis of their nomination. This nomination needs to be supported by a second OSUN faculty member. The OSUN Graduate Studies Committee will then review materials and vote on admission into OSUN (majority vote). Category P graduate faculty can serve as an advisor for OSUN doctoral students. Category M graduate faculty may serve on doctoral examination and advisory committees. Category M graduate faculty may include individuals having adjunct appointments at The Ohio State University or Visiting Professors. Only faculty members with Category P status are eligible for membership on the Graduate Studies Committee. Criteria for membership on the OSUN Graduate Studies Committee are detailed later.

All faculty members will be reviewed on a 5-year cycle or more frequently if needed. Review items include program participation, mentoring record, and maintenance of membership admission standards. Lack of response for request of review materials, after multiple reminders are issued, is sufficient reason for removal from program faculty. Faculty are removed by majority vote of GSC.

#### SECTION 2 - OSUN PROGRAM ADMINISTRATON AND GOVERNANCE

# **Director and Associate Director**

The Director and the Associate Director of the OSUN Graduate Program are appointed by the Coordinating Council of Deans. The Director and Associate Director will be from different participating colleges. The Associate Director will have the opportunity to move into the Director's position at the end of the Directors term or if the Director position is vacated. The term in office for the Director and Associate Director is four years, and neither will serve more than two consecutive terms. These appointees are responsible for the following:

- providing program leadership to the faculty and students, establishing goals, and developing policy guidelines
- coordinating the recruitment and orientation of students, and advising and counseling first-year OSUN students
- administering financial resources,
- maintaining liaison with participating departments and colleges, as well as leading nutrition scientists in other universities, government, industry, and professional societies
- preparing the annual report to the Coordinating Council of Deans on the achievements of OSUN faculty and students, programmatic initiatives, and needs,
- identifying and securing financial resources required for the operation of a viable seminar series.

#### **Graduate Studies Committee**

The OSUN Graduate Program is administered by the Graduate Studies Committee (GSC) in accordance with the rules of the Graduate School Handbook (<a href="http://gradsch.osu.edu/">http://gradsch.osu.edu/</a>). The GSC is chaired by the Director and co-chaired by the Associate Director. The Coordinating Council of Deans will appoint one faculty member from each participating college and OSUN Faculty will elect two additional members by simple majority vote. GSC members must hold Category P status. Terms of elected and appointed members of the Committee are three years and faculty may be appointed or elected to a second term.

The GSC oversees and administers the Ph.D. Degree Program and acts as a liaison between the Graduate School and the OSUN Graduate Faculty. The GSC is responsible for establishing policies and standards of the Program, including the following:

- assisting the Director and Associate Director with recruitment of students and rank ordering of accepted students for the awarding of graduate research associateships;
- assisting the Director and Associate Director with preparation of materials for nominations of accepted applicants and Ph.D. candidates for University Fellowships;
- reviewing recommended members of each student's Advisory Committee and student or faculty petitions concerning deviations from the operating procedures; and

 overseeing curriculum requirements, monitoring the content and quality of instruction for all courses that are considered central to the OSUN Program, and recommending changes as needed to the OSUN Faculty.

# **SECTION 3 - APPLICATION AND ADMISSIONS**

#### **Admissions Criteria**

Doctoral degree applicants to the OSUN Ph.D. Program should have a baccalaureate or Master's degree in nutrition or a related biological science. To be considered for admission, applicants are expected to meet the following minimum criteria:

- Cumulative point hour ratio of 3.30 in previous course work (students can petition a GPA below 3.30 but above a 3.0 for undergraduate coursework);
- If from a country where the primary language is not English, a TOEFL score of at least 100 on the internet-based version (IBT), and an 8.0 on the International English Language Testing System (IELTS) is preferred.
- While the GRE is not required, if it will strengthen the application, it is encouraged.

Although a Master's degree is preferred, students with an exceptional record in a baccalaureate program and experience in a research setting may be admitted directly into the Doctoral Program.

To be considered for the University Fellowship Competition, students must have a 3.6 on a 4.0 scale. For more information on the Graduate School Fellowships, you can see <u>Section 10</u> of the Graduate School Handbook

# **Application Procedure (External Applicants)**

Applicants must submit a formal application through the Graduate Admissions Office of The Ohio State University. All applications are done online at <a href="http://www.gradadmissions.osu.edu">http://www.gradadmissions.osu.edu</a>. OSU Nutrition is designated as Ohio State Nutrition Program. The preferred application deadline if applying for Graduate School Fellowship and Programmatic funding is December 1 for all applicants.

All applicants must submit: 1) an admissions application; 2) official transcripts covering all undergraduate and graduate academic work undertaken prior to application; 3) TOEFL Scores if required; 4) curriculum vitae (CV); 5) an autobiographical essay; and 6) three letters of recommendation (submitted through the online system). The evaluation of the applicant's potential to successfully define and conduct doctoral research is expected in the letters from references. All attached letters of recommendation must be submitted on official letterhead with an original signature.

The autobiographical and goals essay should be approximately 500 to 1000 words. It should indicate the factors that have stimulated the applicant's interest in science in general and in nutrition in particular. The applicant is expected to provide information about career goals and areas of nutrition research of special interest including the identification of specific OSUN Faculty with appropriate expertise. Relevant information about undergraduate or graduate research experiences, especially those related to the nutrition sciences are appropriate. **OSUN prioritizes applications based on the student's research interest and advisor availability.**Students are highly encouraged to contact potential faculty members and discuss research opportunities before applying.

Requests for a waiver of the admission requirements or for the OSUN Program to pay the application fee for international applicants are not normally approved.

All requirements listed above are the same as, or in addition to, the general Graduate School requirements stated in the Graduate School Handbook.

# **Application Procedure (Intra University Transfer Applicant)**

If the applicant is a past or current graduate student of OSU, students may apply for a transfer from another OSU academic unit or program by completing application through the Admissions application system for current or recent graduates. Students must ask their current graduate unit to forward a copy of the original application materials submitted to their original unit along with information concerning the student's performance while enrolled in the Graduate School at The Ohio State University. The latter should include a copy of the student's most recent advisor's report (OSU courses taken, and grades received). Three new letters of recommendation from faculty familiar with the student's performance and an evaluation of potential to succeed in doctoral research are required. If the Ph.D. is primarily a continuation of research from a Master's program in the same laboratory, one letter of support, including financial support, from the student's advisor, along with signatures of two other committee members who are in concurrence will be sufficient. If the GSC approves a transfer, it will also specify which completed courses will be credited towards the graduate degree in the OSUN Program.

# **Notification of Admission**

All applications will be reviewed and evaluated by the Graduate Studies Committee for admittance into the program. Upon approval, the Program Manager will notify the Graduate Admissions Office through the Student Information System (SIS). The Graduate Admissions Office will then officially notify the applicant of the final decision by email. A supplemental acceptance letter from the department will follow. In the case of an Intra University Transfer, the Graduate School will notify both the program and the student by way of a letter.

#### **SECTION 4 - FINANCIAL SUPPORT**

Most incoming first year students are awarded an OSUN first-year graduate research associateship (GRA) on a competitive basis. Programmatic support generally does not exceed one year. After which, support come through the dissertation advisor. Other forms of support include graduate teaching associateships (GTA) and fellowships that are available on a competitive basis from departments, colleges, and the Graduate School. Students who are awarded a GRA, GTA, or fellowship administered by a department or college should adhere to the specific terms and agreements imposed by the supporting advisor or unit.

For more information on departmental fellowships or stipends, students should consult their advisor or the Graduate Studies Chair of the Department in which they are housed.

In addition to providing first-year fellowships, the Graduate School awards Dissertation (Presidential) Fellowships to students completing the final year of the doctorate. The GSC of OSUN is responsible for nominating students for Graduate School Fellowships. For more information on University or National awards administered by the Graduate School, visit the OSU Graduate School webpage for funding opportunities.

Students who are awarded a fellowship, GRA, or GTA administered through the University for at least 50% time receive full tuition and fee authorization and a modest stipend. Fellowships awarded by an extramural agency are not necessarily coupled with an automatic fee authorization but may qualify for the Tuition and Fee Match. Please contact the Program Manager for information.

Students may elect to enter the OSUN Program on a self-supporting basis if accepted without financial support from the Program.

# **Leave Policy**

# Vacation and Holidays

Students must be aware of all leave policies stated by the Graduate School. Students on an OSUN GRA appointment will receive all University Holidays and no more than 10 days of vacation from scheduled workdays (Monday through Friday) per year, with no year-to-year accrual. Students will continue to receive stipends through vacation and holidays. Therefore, students are expected to work every scheduled workday (M-F) that the University is open, even if there are no classes unless vacation days are approved. Vacation time should be arranged with the advisor and the Director. A leave form will need to be filled out and turned into the Program Coordinator.

#### Sick Leave and Leave of Absence

Graduate students do not accrue sick leave. If a student needs to request time off, a request for leave form must be filled out and turned into the program office. For sick leave, a period of one to three consecutive days at a time for up to a maximum of three times for personal and/or

family illness each spring or autumn semester may be taken. Sick days do not accrue beyond a semester. An absence for any reason longer than two weeks is termed as a "Leave of Absence (LOA). LOAs are handled by the local department and must also follow Graduate School guidelines on eligibility for LOA. See Appendix F of the Graduate School Handbook. If a student needs to take a LOA, there must be an approval from both the advisor and the Director, and a form filled out and turned into the Program Coordinator. If a LOA is longer than two years, then the Graduate Studies Chair will evaluate a path forward, if any, for the student.

#### SECTION 5 - SELECTION AND ROLE OF AN ADVISOR

Students are strongly encouraged to enter the program with a commitment from a particular member of the OSUN faculty to serve as the mentor for dissertation research. If more than one OSUN faculty member is interested in a student, those faculty members can supervise the student through laboratory rotations until an advisor-advisee relationship is formed. Rotations should be no less than 7 weeks and not more than 15 weeks. Although the Director and Associate Director can help facilitate meetings with potential advisors, the student has primary responsibility for contacting the individual OSUN faculty members and other OSUN students who can help in this decision. Students might ask questions such as: 1) What projects are available for new students to work on? 2) Is funding available for these projects? 3) What is the faculty member's expectation of graduate students? 4) How many previous students has the faculty member advised and what is the average length that it took those students to finish their dissertation work? 5) What is the current status of graduates for whom the faculty member served as the advisor?

#### **Rotation Contract**

A contract will be signed between the student and the OSUN faculty member with whom the student is rotating. A copy will be filed in the OSUN office, and the student will keep a copy. This is required to be turned in by the second week of class. Students should be aware that the individual faculty member will be evaluating them during the rotation period to determine if the student is compatible with his/her ongoing research program. Until an OSUN faculty mentor has been identified, the student is expected to rotate into a lab and enroll for a minimum of 1 credit hour of 8998 or its equivalency during the first academic year. Prior to receiving credit for their 8998 enrollments, the student should follow-up with each faculty mentor and report the outcome of the rotation to the OSUN director.

# Selection of an Advisor/Changing Advisors

Students should select an advisor who is willing to direct their graduate program and dissertation research by the end of the second semester of their first year of study and are required to have an advisor by the end of the summer term unless there are extenuating circumstances excused by the Director or Associate Director. The advisor must have Category P

graduate status in the OSUN Program. The selection must be communicated in writing to the OSUN Director, who will advise the Graduate School of the advisor assignment.

Although infrequent, situations do arise that make it necessary to change advisors after a permanent advisor has been selected. Open and regular communication between student and advisor will avoid such situations in most cases. In the event that a student deems that it is not possible to continue with a particular advisor, he/she should directly contact the OSUN Director or Associate Director concerning the situation. The Director or Associate Director will attempt to resolve any problems that have occurred. In the event that resolution is not possible, the Director or Associate Director will work with the student to identify a new advisor if the student has not done so. Students must notify the GSC of the OSUN Program in writing that they wish to change advisors and that this change is agreeable with both the previous and the new advisor. If consent of one or both advisors cannot be obtained, the student must petition the GSC in writing for a change of advisor. Action of the GSC will be based on consultation with the student and the advisors. Students leaving a project must turn in all their data and return any University equipment in an intact, organized manner to the previous advisor. If the problem cannot be resolved, the Graduate School has established grievance procedures (see Appendix D in the Graduate School Handbook). Students must recognize that the length of time required to complete the requirements for the degree and financial support might be affected by a change in advisor.

# Roles and Responsibilities of the Advisor

The faculty advisor provides counsel and advice to the student on course selections, program development, selection and execution of dissertation research or individual study problems, and all other student requests requiring assistance. The advisor is expected to provide financial support or assist students in obtaining support from the home department, University, or extramural sources. The advisor chairs the Advisory Committee, the General Examination Committee, and the Dissertation Committee.

# **Selection and Role of the Advisory Committee**

Within the first year of the doctoral program, an Advisory Committee is expected to be selected by the advisor and student. It will then be submitted to the Director or Associate Director of OSUN for approval by the GSC. The Advisory Committee is composed of at least 3 OSU graduate faculty members, in addition to the advisor. Two faculty members must be OSUN, while the third may be outside of OSUN. At least one faculty member must be from a department different than the home department of the advisor. If an external committee member is desired, please submit a CV at the time of committee approval. Advisory Committee members may be Graduate Category M or P. The Advisory Committee serves to 1) approve the student's planned program of study; 2) consult on early progress in research; and 3) participates on the student's proposal approval, Candidacy Examination Committee, and Final Exam Committee. All students must have their thesis proposal and planned program of study approved by their Advisory Committee prior to the Director's approval of the Application for Candidacy Exam

form in GRADFORMS. Advisory Committee Members can be changed upon approval by the Director or Associate Director but without petition by the Graduate School prior to submission of this form.

Students should formally meet with their Advisory Committee to review performance and receive input on planned direction at least once per year. The annual progress report will be filled out by both the student and advisor and submitted to the Program Coordinator and placed in the student's file.

#### SECTION 6 - REGISTRATION AND SCHEDULING

The rules of the OSUN Program with respect to registration, scheduling, course load, and changes in schedule are the same as those stated in the Graduate School Handbook. OSUN expects students to enroll in a minimum of 16 credit hours per semester. A student may not enroll in more than 18 credit hours per semester or 12 credit hours in summer session, including audited courses without advisor and Graduate School approval. Please be mindful of registration deadlines, as a late fee will be assessed. The Program will not be responsible for late fees.

Please see the terms of appointments for Graduate Associates and Fellowship Appointments in the Graduate School Handbook (Section 9 and 10). **Post-candidacy doctoral students** must register for three credit hours per semester and summer session.

<u>Continuous enrollment policy</u> states that all students who have successfully completed the doctoral candidacy exam will be required to be enrolled every semester (summer excluded) until graduation.

OSUN students not receiving compensation in the form of a GRA, GTA, or fellowship are still expected to enroll in a minimum of 3 credit hours per semester or for the standard of their advisor's department, if a minimum enrollment is dictated. International students must register for at least 8 credit hours per semester unless they hold a Graduate Associateship or fellowship, in which case the rules for the appointment apply.

All OSUN students are expected to register at minimum for <u>one</u> hour of research credit every term (8998 or 8999) if performing research in a lab.

The Master Schedule of Classes, published each semester by the University Registrar, contains detailed instructions and deadlines for registration. It is available on the web, <a href="http://registrar.osu.edu/">http://registrar.osu.edu/</a>. Registration material is sent to new students after they have accepted admission. Students must register using their Buckeye Link. You will be assigned a date and time that you may begin to register. Students bear full responsibility for any problems that arise from failure to consult with their advisor or from failure to follow the advisor's recommendations. If it is necessary to drop or add a course at some point during the

semester, students should consult both the Master Schedule of Classes for add/drop deadlines and the faculty advisor.

The OSUN Program office maintains a file on each student. The file contains all application materials; a record of the student's academic performance at The Ohio State University; copies of the approved course schedule; and copies of all official correspondence and forms to, from, or about the student from the advisor, the GSC, the Department, the Graduate School or other faculty members and administrative units of the University.

#### **SECTION 7 - ACADEMIC STANDARDS**

Students must remain in good academic standing to remain in the Program and to remain eligible for financial support. To be in good standing in the Graduate School, a student must maintain a graduate cumulative point-hour ratio of 3.0 or better in all graduate credit courses after 9 graduate credit hours and must maintain reasonable progress toward graduate program requirements (see below). Failure to maintain a GPA of 3.0 with less than 9 credit hours will result in a "poor performance" letter from the Graduate School. Failure to maintain a GPA of 3.0 after 9 graduate credit hours will result in a student being placed on a remediation plan for one semester by the Graduate School (see Section 5 of the Graduate School Handbook). Students who do not raise the CGPA to a 3.0 or better after remediation will be placed on academic probation for one semester. A student who is on probation may not be appointed or reappointed as a Graduate Associate. A student may be dismissed by the University if after probation, the CGPA is not a 3.0 or better. If there are extenuating circumstances, the GSC may petition the Graduate School for an exception. Students are not eligible to take the Candidacy Examination or the Final Oral Examination if their GPA is below 3.0.

Graduate students must maintain professional ethical standards in their studies and research. The University Committee on Academic Misconduct is responsible for reviewing cases of misconduct. For more information on Academic Standards, students should consult the Graduate School Handbook.

# **Reasonable Progress**

Students are expected to make reasonable progress in their Doctoral Program. Full-time students who enter the OSUN Program with an M.S. degree should be able to complete the doctorate in 3 to 5 years. Reasonable progress can be determined at the discretion of the GSC but includes factors such as not having a permanent advisor by the end of the first year, not entering candidacy by the end of the second year (i.e. having a candidacy exam scheduled); not having nor making dissertation research progress or otherwise not meeting written expectations during the year being currently evaluated. At the end of each year, the student and advisor will submit an annual progress report to the Program Coordinator to document accomplishments and goals for the student's course schedule and dissertation research. The

Advisory or Dissertation Committee should also be consulted for an evaluation at least once per year.

#### **SECTION 8 - THE CURRICULUM**

#### **Outcomes for Doctoral Studies in Nutrition**

The OSUN Program has been designed to provide a plan of course work as well as experiential learning activities that will prepare the student for the interdisciplinary nature of modern nutrition science and to equip the student to adapt to new developments in this integrative discipline and expectations in the job market. As a result of participating in the OSUN Doctoral Program the successful student will have achieved the following:

- display a strong knowledge base in nutrition science;
- show evidence of ability for critical thinking as applied to nutrition research;
- develop expertise in the design, conduct, and analysis of experimentation in a particular area of nutrition science;
- integrate knowledge from related disciplines;
- gain experience in working as part of a team;
- seek expertise specific to the student's career goal; and,
- communicate effectively in written and oral formats.

Doctoral students must complete a minimum of 80 credit hours in graduate level courses beyond a baccalaureate degree to earn a Ph.D. degree. M.S. degrees earned in nutrition or a related field may be counted for a maximum of 30 out of the 80-hour requirement for the Ph.D. degree. Of the 50 post-master's hours, at least 24 graduate credit hours must be earned at this University. A student must be registered with at least three hours in the term of the candidacy exam and the term of expected graduation. The candidacy exam and the final exam cannot occur in the same semester.

#### Curriculum

To fulfill the Ph.D. course requirements the listing of required courses is to be completed along with elective courses in advanced nutrition, statistics, physiology, public health, and seminar. Students must receive permission of the Director to not enroll in the required courses. Students in their first year that are rotating must sign up for a minimum of 1 credit hour of 8998 research credit either under the Directors number or the class number of the faculty member in whose lab they are rotating.

Students must pass a research proposal and have their final plan of study approved by the student's Advisory committee. Candidacy exams should happen shortly afterwards. Publications are expected to result from the student's dissertation.

# **Required Courses**

The following series of courses are cross listed in the Department of Animal Sciences (ANIMSC) and the Department of Human Sciences; Program of Human Nutrition (HUMNNTR):

7761 Macronutrient Metabolism 4 credits Fall Semester\*

7762 Micronutrient Metabolism 4 credits Spring Semester\*

7789 Nutrition Research Ethics 1 credit 1st Session 7 week Fall Semester

7899 Oral Research Communication 1 credit Spring Semester

8835 Grantsmanship 1 credit Spring Semester

#### Students must also take either:

AS/HN 7790 Animal Models and Mechanistic Research Design 2<sup>nd</sup> 7 week Fall Semester HN 7791 Community and Clinical Nutrition Research Design 2<sup>nd</sup> 7 week Fall Semester

\*Equivalents of 7761 and 7762 may have already been taken as part of a post-baccalaureate degree. Please confirm with your advisor and the Director that the requirement has been met.

#### Students must take either:

AS/HN 8801 Advanced Macronutrient Metabolism 3 credits Spring Semester Even year and AS/HN 8802 Advanced Micronutrient Metabolism 3 credits Fall Semester Odd Year

OR

HN 7804 Advanced Community Nutrition and International Nutrition 3 credits and HN 7806 Advanced Nutrition Education 3 credits

We understand that students need to deviate from the curriculum and that flexibility is needed. A student can petition the GSC for approval to split the series. A letter from the advisor needs to accompany the petition.

### **Advanced Nutrition Courses (2-4 hours)**

These classes are cross listed in Animal Sciences and Human Nutrition 8833 Diet, Nutrition, and Cancer 3 cr Fall Semester Even year 8834 Comprehensive Approach to Food Safety 2 cr Spring Semester Odd year

HN/HCS 7600 Metabolomics 3 cr Spring semester

FST 7620 Food and Nutritional Toxicology 2 cr

FST/HN 7830 Phytochemicals in Human Health: Crops to Clinic 3 cr Fall Semester

Public Health: Epidemiology 6437 Cancer Epidemiology 3 cr Public Health: Epidemiology 6415 Nutrition in Public Health

Medical Dietetics Nutritional Genomics 6900 3 cr

# Seminar

ANSCI/HUMNTR 8888 OSUN Research Seminar 1 credit Fall Semester

Students are expected to attend one or more seminar series every semester (except summer) regardless of whether they are taking the seminar for credit. Students must take a minimum of 5 credit hours of seminar. Attending seminars and learning how to prepare well written summaries of research presentations and deliver oral research presentations are vital parts of graduate education.

# **Graduate Physiology\***

(minimum of 2 credit hours). Students are required to take one systemic physiology course. \*Students are encouraged to discuss which of the following or related courses in the general area of physiology are most appropriate for the student's long-term goals and research interests with their advisor, Advisory Committee, and other OSUN Faculty as appropriate.

Physiology and Cell Biology 6101 and 6102 Advanced Human Physiology I & II, 3 cr, Fall & Spring Semesters; also prerequisite for several more advanced courses in Physiology that might be valuable

Animal Sciences 6060 Advanced Reproductive Physiology 3 cr Fall Semester even

Animal Sciences 7040 Animal Physiology 1 Fall Semester

Animal Sciences 7050 Animal Physiology 2 Spring Semester

Animal Sciences 7030 Advanced Topics in Ruminant Nutrition 3 cr

Animal Sciences 7100 Animal Growth and Development

Nursing 7450 Pathophysiology of Altered Health States 5 cr

Animal Sciences 7730 Endocrinology 4 cr

BioPharm 7823 Selected Topics in Molecular Medicine 2 cr

### **Statistics**

(1 class is required; 3-7 hours recommended)

Students must have a minimum of the following competencies in statistics: two sample tests, non-parametric one and two sample procedures, regression analysis, analysis of variance, regression models, ANOVA with several factors, mixed models, and nesting. Generally, students must take at least two or three courses to obtain these competencies. Additional competencies might be necessary, depending on courses from the M.S. program, the nature of the dissertation research, and career goals.

# Recommended classes

Statistics 5301 Intermediate Data Analysis I 4 cr

Statistics 5302 Intermediate Data Analysis II 3 cr

Animal Sciences 7000 Applied Biometrics 4 cr Spring

Public Health: Bio 6210 Design and Analysis of Studies in the Health Sciences I 3 cr

Public Health: Bio 6211 Design and Analysis of Studies in the Health Sciences II 3 cr

Public Health: Bio 7215 Design and Analysis of Clinical Trials 2 cr Spring

# **Skill Development**

Students will avail themselves of the opportunity to develop skills in research and/or teaching. This requirement can be met by working in a laboratory or enrolling in courses, workshops or a teaching practicum. Examples of courses focused on methodology and experimental design that merit consideration include the following:

Animal Sciences 5090 Gut Microbiology
Animal Sciences 8780 Molecular Biology Techniques 3 cr AU Sem 1<sup>st</sup> 7 weeks
Microbial Infection and Immunity 7010 Cellular and Molecular Immunology 3 cr
Cancer Biology and Genetics 8270 Biochemical Mechanisms of Carcinogenesis 2 cr
Food Science & Technology 7610 Instrumental Analysis I: Spectroscopic and Chromatographic
Techniques in Food Analysis 3 cr Fall Semester First Session
Food Science & Technology 7611 Instrumental Analysis II: Molecular and Spectral Analysis
Techniques 3 cr Fall Semester Second Session
Biopharmacy 6785 DNA Microarray Technology 1 cr
Molecular Genetics 5602 Eukaryotic Cell and Developmental Biology 3-4 cr
Microbiology 5122 Immunology 3 cr

# **Research Credit Hours**

Students who are pre-candidacy need to register for research hours under 8998 and students who are post-candidacy need to register for 8999 under the class number of their faculty advisor. If a student does not have an advisor, they may register under the Directors HN 8998 number or the 8998 number of the faculty whose lab they are rotating in.

All OSUN students are expected to register at minimum for one hour of research credit every term (8998 or 8999) if performing research in a lab.

#### **Dissertation Research**

Students should initiate a research project during their first year of graduate study. Students are highly encouraged to present their research at a minimum of two national meetings during the course of their doctoral program. Because the Research Proposal Examination and the Candidacy Examination (see below) will test, among other things, the student's ability to generate and test hypotheses and answer research questions, students must have strong research experience in their chosen research area and in critiquing the research of other scientists.

By the end of the students first year, a proposed plan of study must be submitted and approved by the Program Coordinator.

#### **SECTION 9 – RESEARCH PROPOSAL**

Prior to the written portion of the Candidacy Exam, the student must prepare a research proposal that includes the hypotheses and the specific aims of the proposed research, the design of the proposed studies to be performed, and the methodology to be used. The proposal should also include an introduction to the research problem, a literature review, and preliminary data in support of the hypothesis to demonstrate the feasibility of the proposed research. The Advisory Committee should meet to discuss the proposed research and the student's plan of study prior to the Candidacy Exam. At the end of the meeting, the Committee Members should briefly summarize their comments on the OSUN Research Proposal Approval Form (See Appendix) and sign the form, signifying that the proposal is approved with whatever stipulations the committee members' devise. Also, the plan of study should be signed by the advisor with an indication of approval by the entire committee. A copy of the signed proposal approval form (attached with a copy of the proposal) and a copy of the signed plan of study shall be filed with the Program Manager and be placed in the students' file. Should the committee decide that the student's performance failed to meet its expectation, the student is expected to schedule a second defense within 6 months of the failed defense of the proposal. Failure to pass the second defense of the proposal will result in dismissal from the Program.

#### SECTION 10 - CANDIDACY EXAM

Please also review the Graduate School Handbook, <u>Section 7</u> for more information on the Candidacy exam. The Candidacy Examination is composed of both written and oral portions. After passing both components, the student is considered a doctoral candidate.

The philosophy of the OSUN Program is that the Candidacy Examination should: 1) rigorously test the student's comprehensive knowledge of the field of nutrition including allied fields and supporting areas emphasized in the student's individual program; and 2) assess the student's ability to think critically and express those ideas clearly, and to design and conduct research.

The student's advisor is chair of the Examination Committee. All members of the Examination Committee submit written questions for the Candidacy Examination. The committee member may administer the questions or submit them to the advisor who will arrange for their administration. Students are not allowed to see the questions before the exam time. Generally, the student will write for 4 to 8 hours for each member of the Examination committee (one exam day for each member of the committee) over a time period that is determined by the committee but should be completed within a 2-week period. Questions can be "open book" or "closed book". For open book questions, the reference materials must be stipulated (e.g., full internet access or specific reference materials supplied by committee member). For closed book questions, a computer without internet capability is required. Students must turn over their cell phone and other mobile devices to their advisor prior to the exam. Lunch will be on site for a closed exam. Ideally, the Committee will meet as a group with the student several months before the Examination to help prepare the candidate and to establish a mutually agreeable time frame for the Examination and a general list of topics to be

covered. The Examination may include, but is not limited to, subject material directly related to the previously submitted and evaluated research proposal.

The student is responsible for presenting each member of the Advisory Committee with a typed copy of the written answers to the questions at least 7 days prior to the Oral Examination.

The oral portion of the Candidacy Examination generally covers selective aspects of the answers to the written questions but also new questions. A unanimous vote of the Committee is required for successful completion of the Candidacy Examination. Rules covering postponement of the Oral Examination, unsatisfactory written answers to the questions, failure to pass the oral portion of the Candidacy Examination, and opportunities for one Repeat Candidacy Examination are detailed in the Graduate School Handbook.

#### **SECTION 11 - DISSERTATION**

After the Candidacy Examination is passed, students enter the final phase of their program, which involves completion of the research project and preparation of the Dissertation. This phase represents the culmination of the doctoral student's program. This research effort will demonstrate the candidate's ability to critically interpret scientific literature, design novel research, and properly and objectively evaluate experimental results. The research must contribute to fundamental knowledge within the discipline of nutrition.

Although the members of the Candidacy Examination Committee may serve on the Dissertation Committee, this is not required. The student, in consultation with the advisor, will establish the Dissertation Committee. Although the Graduate School requires the advisor and only 2 graduate faculty members (Section 7.8), the Dissertation Committee for OSUN students shall be composed of 3 graduate faculty members in addition to the advisor. At least two (along with the advisor) shall be members of OSUN, and at least one is to be from an outside discipline. The student, in consultation with the advisor, will submit the list of Dissertation Committee members to the Director or Associate Director of OSUN for approval by the GSC. Ideally, this list will be submitted shortly after the Candidacy Exam but must be done at least one week prior to submitting the Dissertation Draft Approval Form to the Graduate School. Faculty from other universities or persons with special academic or technical expertise may be appointed to the Dissertation Committee with the approval of the GSC of OSUN and the Graduate School.

### **Time Limit**

If a student fails to submit the final copy of the dissertation to the Graduate School within 5 years of being admitted to candidacy (passed the General Examination), the candidacy is canceled. In such a case, with the approval of the advisor and the Graduate Studies Committee, the student may take a Supplemental Candidacy Examination after which the student is readmitted to candidacy and must complete a dissertation within 2 years. If GRA, GTA, or fellowships are awarded/administered by departments, the time limits of the respective departments should be honored with respect to those sources of funding.

# **Dissertation Draft Approval**

The Graduate School Handbook provides detailed guidelines for preparing dissertations. The student should read these guidelines prior to starting to write. In addition, the student should consult the Instructions for Authors for the major journal of his/her discipline and consider formatting in its style and form. The student must submit a complete, typed dissertation draft to the Dissertation Committee Members for review. After having been approved by the thesis advisor, this draft must be provided to each Committee Member at least 1 week prior to draft approval for review. The student must also show a draft of the dissertation to the Graduate School to ensure that style guidelines have been followed.

Deadlines for scheduling the Final Oral Examination and for submitting the final copy of the dissertation to the Graduate School appear every semester in the Master Schedule of Classes. Students who do not meet the deadlines but who submit the dissertation to the Graduate School by the last business day before the ensuing semester do not have to pay additional fees but will graduate at the end of the next semester.

#### **Final Oral Examination**

This examination is held upon approval of the final dissertation by the Final Exam Committee. To schedule a final exam, the candidate needs to submit an Application for Final Examination on GRADFORMS. This must be approved by the committee at least two weeks prior to the proposed defense date. The Graduate School will appoint a Graduate Faculty Representative to serve on the Examination Committee. Not less than 1 week before the Final Oral Examination, the student must provide the Representative with a copy of the dissertation draft. A final dissertation seminar is required of all doctoral students and can be presented in a regular seminar series or as a special seminar, depending on the wishes of the student and advisor. The presentation is not a component of the 2-hour Examination.

Only Final Oral Examination Committee Members are allowed to be present for the questioning conducted by those Committee Members using procedures outlined in the Graduate School Handbook. The student is considered to have completed the Final Oral Examination successfully when there is an unanimously favorable decision by the Final Oral Examination Committee. If one or more Members of the Committee deem the dissertation to be unsatisfactory, the Committee will decide if the student can take a second Examination. No student is permitted to take the Final Oral Examination more than twice. The results of the Final Oral Examination are noted on the Final Oral Examination Report Form, which will need to be approved by committee members in GRADFORMS by the posted semester guidelines.

The Committee Members, with the exception of the Graduate Faculty Representative, also sign the Report on Final Document. This form might be signed at the end of the Final Oral Examination or later if one or more committee members have requested additional changes in the dissertation and turned into the Graduate School by the posted semester deadlines. The Program Assessment form for the final exam also will need to be completed at this time.

#### SECTION 12 – PROGRAM ASSESSMENT

Assessment at the graduate level has been requested by the Graduate School. Forms for assessment should be filled out by each committee member after the Research Proposal, Candidacy Exam, and Final Exam. All forms are found on the OSUN Website under FORMS. The forms should be completed at the time of the exam and then turned into the Program Office. These forms will then be used to evaluate the OSUN curriculum.

# **SECTION 13 – GRADFORMS**

The majority of petitions and forms can be found on <u>GRADFORMS</u>. Students should be aware of deadlines and take those into consideration when submitting forms for approval on GRADFORMS.

#### **SECTION 14 - GRIEVANCE PROCEDURE**

Discussion with an advisor, supervisor, OSUN Director, Department Chair or College Dean normally leads to resolution of a grievance. There may be instances in which recourse to these persons does not provide resolution. The Council on Research and Graduate Studies has established grievance procedures (<u>Appendix D</u> of the Graduate School Handbook).

#### **APPENDIX**

#### **Student ID**

Student IDs (or BuckID) are obtained in the BuckID office at 3040 Ohio Union at 1739 North High Street. The ID is required for using many campus facilities such as the Recreation and Physical Activity Center (RPAC) or borrowing books from the library. The magnetic strip on the student ID is activated every semester after student fees are paid. For more information, visit BuckID Services website, <a href="https://buckid.osu.edu">https://buckid.osu.edu</a>.

# **Research Risks**

Students need to fulfill appropriate requirements to handle laboratory animals, work with human subjects, or work in laboratories by consulting with the Office of Responsible Research Practices (http://orrp.osu.edu/ (614) 688-8457) or their departmental laboratory safety officer. HazCom and additional training can be accessed at <a href="https://ehs.osu.edu/">https://ehs.osu.edu/</a> or by calling (614) 292-1284.

# **Campus Parking Passes**

Students must register any motor vehicle they park on University property. To register a motor vehicle, pay parking fees and address all other parking and traffic questions (maps, restrictions, benefits), students should call ((614) 668-0000) or visit the office (160 Bevis Hall, 1080 Carmack Road; 7:30 a.m.-6:00 p.m., Monday through Friday). To more learn about graduate student parking permit eligibility, permit prices and applications, visit Campus Parc at <a href="http://osu.campusparc.com/">http://osu.campusparc.com/</a>

Note: Students who are teaching assistants or research assistants may have staff member status, enabling them to buy "B" parking tags. Students should confirm their status with their home department.

#### **International Students Office**

New international students must get in touch immediately with the Office of International Affairs (OIA), (614) 292-6101 or <a href="https://oia.osu.edu">https://oia.osu.edu</a> The OIA will provide a student ID number, which is also recognized as a temporary social security number to be used as a personal ID number. International students must apply for a permanent social security number in downtown Columbus to obtain a driver's license:

Social Security Administration 200 North High Street Phone: 866-964-1723

The major functions and services of the OIA are as follows:

- filing an I-20 form;
- scheduling the time for the T.B. test and English test indicating which level of English class must be taken;

- immigration law consultation;
- school orientation;
- education and recreation programs designed especially for the international student;
- help with reentry of USA after exiting; and
- help with other international student matters.

Office of International Affairs 140 Enarson Classroom Building 2009 Millikin Road

Phone: (614) 292-6101

Walk-in advising hours: Monday through Thursday, 1:00 p.m.-4:00 p.m.

International students who want to be certified to hold a GTA position must contact the **Spoken English Program (SEP)** to arrange for testing if necessary. Tests should be taken as soon as possible as classes fill rapidly. The contact information for the SEP office is:

196 Arps Hall 1945 North High Street Phone: (614) 292-5005 E-mail: esl@osu.edu

Website: <a href="http://esl.ehe.osu.edu/programs/spoken-english-program/">http://esl.ehe.osu.edu/programs/spoken-english-program/</a>

# THE OHIO STATE UNIVERSITY NUTRITION PROGRAM

# APPROVAL OF RESEARCH PROPOSAL

Name	
Dissertation Proposal Title:	·
The Dissertation Research proposal is approve recommendations:	ed with the following suggestions or
The plan of study is approved with the followi	ng suggestions or recommendations:
	Advisor
	Advisory Committee Members
	Date

cc: Student Official Folder Advisor

# LABORATORY ROTATION CONTRACT

Stude	nt Name:		_Rotation Instructor:	
	er of Hours Enroll on:	ed in 8998:	Estimated hour/week student	available for
Semes	ster:			
This se	ON 1: EXPECTATION Ection should be file in the file in the fold of the rotation in the rotatio	lled out by the	faculty member in consultation wit	h the student <i>at the</i>
1.	Reading Relevant	Literature:		
2.	Time in the Labor	atory:		
3.	Research Meeting	gs:		
4.	Experimental Wo	rk:		
5.	Student Presenta	tions:		
	YesNo	e student the p	ossibility for support in my laborato	ory over the coming
Stude	nt Signature	Date	Faculty Signature	Date
This se		lled out by the	HE STUDENT student <i>after the rotation is compl</i> ek of participation in rotation:	eted.
2.	Describe direct p	articipation in	research work (use addition pages i	f necessary):

	3.	Briefly describe outside reading/literature study (use additional pages if necessary):
	4.	Describe presentations in research group meetings:
	 5.	Approximate time spent with rotation instructor:
	6.	Approximate time spent with other mentors in the lab (students/postdocs/techs):
•	7.	Participation in other pertinent activities (use addition pages if necessary):
Stu	dei	nt Signature: Date:
SEC	TIC	ON 3: FACULTY APPROVAL
Stud	der	nt has participated in the above activities: AgreeDisagree
I ha	ve	discussed potential opportunities/support regarding graduate work in my program:YesNo
Gen	er	al Comments and recommendations regarding areas of study, courses or lab courses this
stuc	der	nt would need before entering the lab:
Faci	ult	y Signature:Date:
		copy of this form with the Program Manager in 222B Animal Sciences at the beginning of tation and a completed copy at the end of the rotation. Keep a copy for yourself and give

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a copy to your instructor.

## CHECKLIST OF RESPONSIBILITIES

# **Director and Associate Director of the OSUN Program**

- Provide leadership for the program
- Coordinate student recruitment
- Coordinate rotation of OSUN First Year Graduate Research Associates through faculty research programs and assignment of advisors
- Advise and counsel first year students until advisor is selected
- Chair and co-Chair the Graduate Studies Committee and facilitates OSUN Program activities as needed
- Prepare the annual report

# **Graduate Studies Committee**

- Administers the OSUN Program
- Acts as liaison between the Graduate School and OSUN faculty members
- Reviews students' Advisory Committee
- Reviews faculty and student petitions concerning deviations from operating procedures
- Makes final decisions on applications and awarding of first year OSUN Graduate Research Associateships
- Nominates graduate students for Graduate School awards

#### **Advisor**

- Provides counsel and advice to graduate advisees on course selection, program development, selection of Advisory Committee Members and Dissertation Committee members, all in a professional manner
- Provides other counsel as needed
- Chairs Advisory Committee and Candidacy Examination
- Chairs Dissertation Committee and Final Oral Examination
- Assists the student in identifying a dissertation research topic and regularly monitors the student's research progress
- Assists advisees in seeking financial support, assuming the advisor cannot provide this support
- Creates opportunities for students to present research at national meetings
- Promotes students' efforts to publish research articles in a timely manner

#### **Graduate Student**

- Shows leadership in preparing and submitting a formal application to the OSUN Program
- Plans program of study with assistance of advisor and submits this program plan to the Advisory Committee for review and approval
- Meets with advisor regularly and updates the advisor on progress
- Remains in good academic standing and makes reasonable progress in program
- Maintains professional ethical standards in studies and research

- Networks with other students and faculty regarding course selections and opportunities (e.g., for workshops, funding, and equipment availability)
- Participates in seminar during the fall and spring semesters.
- Seeks opportunities to present research at national meetings
- Seeks opportunities to collaborate on and submit publications related to research efforts
- Becomes familiar with all relevant policies outlined in the Graduate School and OSUN Handbooks
- Is proactive in seeking funding for stipends and research, if necessary, in consultation with the Advisor and the Chair of the student's Departmental unit
- Is responsible for scheduling all oral examinations with advice and approval of Advisor and other committee members
- Prepares proposal describing dissertation research and submits the proposal first to the Advisor for comment and then to all members of the Candidacy Examination Committee for comment and approval
- Takes leadership in ensuring that forms required by the Graduate School are prepared and submitted in a timely fashion. These include:
  - Notification of the Candidacy Examination
  - Application to Graduate
  - Dissertation Draft Approval Form and Notification of Final Oral Examination
- Submits final approved copy of the dissertation to the Graduate School along with the Final Approval Form. Gives copies of dissertation to the advisor, the student's Department, and Committee Members as requested.