

**PROFESSIONAL SCIENCE MASTER'S IN APPLIED  
NUTRITION PROGRAM HANDBOOK**

**Summer 2020 Cohort**

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## **NUTRITIONAL SCIENCES DEPARTMENT**

The Department of Nutritional Sciences leads in cutting-edge research, outstanding undergraduate and graduate programs, Cooperative Extension programs and continuing professional education that advance the discovery and translation of nutrition and physical activity in optimizing health for people in Arizona, and beyond.

### **PROGRAM DESCRIPTION**

The Professional Science Master in Applied Nutrition (PSM) serves the needs of students, educators, registered dietitian nutritionists (RDNs), and health professionals interested in obtaining advanced training in the application of nutrition science to human health, and developing valuable professional skills (e.g., leadership, writing and communication skills, project management) while gaining hands-on experience in business or the public sector.

Coursework for this 30-unit master's degree program is offered **100% online** through the Arizona Online, providing maximum flexibility to students, many of whom are working professionals. The program is designed to be completed in 18 months, however, can be extended as needed. A minimum of five units per semester required to be eligible for financial aid.

Unlike existing master's in nutrition science programs, the Professional Science Master includes 6 credit hours of graduate level capstone during which students will work with a partner organization to complete approximately 270 hours (45 hours per unit of credit) of hands on experience that will serve as their graduate capstone project. Students will also have the opportunity to complete 6 units of PLUS coursework (elective coursework) tailored to their profession and/or professional development goals.

### **ADVISING**

The program coordinator serves as advisor for students enrolled in the professional science master's in applied nutrition program. It is recommended that you contact the program coordinator at least each semester to facilitate adequate contact regarding progress in courses, questions regarding future coursework and any other academic or personal issues.

### **ADMISSION REQUIREMENTS**

PSM in Applied Nutrition program applicants must meet the following minimum requirements:

- Bachelor of Science degree in Nutrition or related field from an accredited institution. A Bachelor of the Arts (B.A.) degree will be accepted in the area of Nutrition.
- If undergraduate degree is in a field other than nutrition, coursework in physiology, biochemistry and a 400 (senior) level nutrition and disease (medical nutrition therapy) course is required.

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- Minimum 3.0 GPA overall in undergraduate degree
- International students must submit a Minimum TOEFL (Internet-based) Score of 79 or (Paper-based) Score of 550. The minimum IELTS (overall band score) is 7.
- Additionally, because the PSM program is delivered exclusively online, the following student characteristics are essential to successfully completing the program:
  - Self-directed, independent learner
  - Able to manage time effectively
  - Effective written and verbal communication
  - Able to utilize a wide range of resources effectively

For complete application requirements and instructions on how to apply to the graduate college please visit: <https://apply.grad.arizona.edu/users/login>. Students must be admitted to the graduate college prior to enrolling in courses.

<b>Faculty</b>	<b>Course(s) Taught</b>
Kayle Skorupski, MS, RDN-AP, CSG, CNSC, FAND Program Coordinator <a href="mailto:kayleskorupski@email.arizona.edu">kayleskorupski@email.arizona.edu</a>	NSC 597: Capstone Prep Workshop NSC 698A: Capstone I NSC 698B: Capstone II
Qionghiu “Shelley” Zhang, MS <a href="mailto:qzhang1@email.arizona.edu">qzhang1@email.arizona.edu</a>	NSC 501: Statistics for Applied Nutritional Sciences I NSC 502: Statistics for Applied Nutritional Sciences II
Vanessa da Silva, PhD, RD <a href="mailto:vdasilva@email.arizona.edu">vdasilva@email.arizona.edu</a>	NSC 509: Advanced Nutrition Metabolism and Disease
Mary Marian, DCN, RDN, CSO, FAND <a href="mailto:mmarian@email.arizona.edu">mmarian@email.arizona.edu</a>	NSC 519: Advanced Applied Nutritional Sciences NSC 542: Advanced Medical Nutrition Therapy
Amy Drescher, PhD, RDN <a href="mailto:drescher@email.arizona.edu">drescher@email.arizona.edu</a>	NSC 545: Assessment and Regulation of Human Body Composition
Ski Chilton, PhD <a href="mailto:fchilton@email.arizona.edu">fchilton@email.arizona.edu</a>	NSC 575: Nutrigenomics for the Study of Disease Prevention & Intervention

## **CREDIT FOR COURSES TAKEN AS A NON-DEGREE-SEEKING STUDENT**

Domestic students may transfer up to 6 units of coursework taken as non-degree seeking students. This means that you may enroll in the required courses prior to being admitted into the program. This does not mean that you may transfer other courses to count toward the degree. Courses taken as a non-degree seeking student that may be applied to the PSM are NSC 501, NSC 509, NSC 519, NSC 542, NSC 545, NSC 575 or NSC 502 – PLUS course electives also may be taken as non-degree seeking.

International students are not permitted to enroll in online classes outside of a certificate or degree program. In other words, international students must be accepted into the PSM program prior to enrolling in online courses.

## **FINANCIAL INFORMATION**

Cost per unit for the program is \$650 per unit. Teaching Assistantship (TA) and/or hourly grader positions may be available on a competitive basis. If you are interested in a TA or grader opportunity, please contact the program coordinator. If there is an opportunity, you will be provided more information. No Research Assistantship (RA) opportunities are available for this program. Financial Aid is available, must be enrolled in at least 5 units per semester. For more information regarding financial aid eligibility please visit:

<https://financialaid.arizona.edu/faqs#term-197>

The University of Arizona utilizes Scholarship Universe, an advanced scholarship management system for our students. For more information, please visit:

<https://financialaid.arizona.edu/scholarshipuniverse>

The Graduate College provides information regarding funding and financial information (including information regarding grants, fellowships, and scholarships):

<https://grad.arizona.edu/funding>

The Graduate & Professional Student Council provides Research and Project (ReaP) Grants that offer up to \$1,000 to partially or completely fund projects. For more information, please visit:

<http://gpsc.arizona.edu/research-grants>

The Graduate & Professional Student council provides travel grants for professional development purposes. For more information, please visit: <http://gpsc.arizona.edu/travel-grants>

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## **SEMESTER SCHEDULE & GRADUATION TIMELINE**

### Summer 2020: 6 credits

NSC 509 Advanced Nutrition Metabolism & Disease

NSC 519 Advanced Applied Nutritional Sciences

### Fall 2020: 8 credits

NSC 501 Statistics for Applied Nutritional Sciences I

NSC 542 Advanced Medical Nutrition Therapy

NSC 502 Statistics for Applied Nutritional Sciences II

NSC 545 Assessment and Regulation of Human Body Composition

### Spring 2021: 10 credits

PLUS COURSE 1

PLUS COURSE 2

NSC 575 Nutrigenomics for the Study of Disease Prevention & Intervention

NSC 597 Capstone Prep Workshop

### Summer 2021: 6 credits

NSC 698A Capstone I

NSC 698B Capstone II

Graduation August 2021. Students are able to extend graduation timeline as needed, depending on ability to take classes. Please communicate with program coordinator if you are concerned regarding ability to follow this timeline. Working together, a personal timeline for coursework and graduation can be established.

## **COURSE REQUIREMENTS AND DESCRIPTIONS**

*NSC 501 – Statistics for Applied Nutritional Sciences (1)* This course will introduce the concepts of research methods with a focus on the varied research conducted in nutritional sciences. Students will be guided through a comprehensive compendium of the elements of research design in order to understand the application of these elements to Applied Nutritional Science.

*NSC 502 – Statistics for Applied Nutritional Sciences II (1)* This course will introduce basic statistical concepts and applied statistical strategies that are essential for conducting and critiquing research in nutritional sciences and related fields. The course will be delivered online structured with video lectures, self-check practices, discussion forum, assignments and quizzes. The experiences within the course will provide students the necessary competencies to appropriately summarize data (descriptive statistics) and implement statistical tests (inferential statistics) based upon appreciation of research design and data characteristics.

*NSC 509 – Advanced Nutrition Metabolism and Disease (3)* This class will review the multi-facets of macronutrient metabolism and application to the prevention and development of common chronic diseases. The clinical applications of nutrient deficiencies and toxicities will also be reviewed. Metabolic alterations associated with obesity, metabolic syndrome, and other diseases will be discussed. The application of evidence-based guidelines and research for nutritional interventions will be discussed through weekly readings and assignments.

*NSC 519 – Advanced Applied Nutritional Sciences (3)* This course will advance understanding of research design, methods, and implementation, interpretation of research findings, and advances in nutrition science research for selected chronic diseases.

*NSC 542 – Advanced Medical Nutrition Therapy (3)* This course focuses on the prevention and management of selected chronic disease and acute care conditions. An in-depth exploration of the selected topics and related research using an evidence-based approach will serve as the class foundation. The course will be completed with students presenting a discussion/review of an approved topic.

*NSC 545 – Assessment and Regulation of Human Body Composition (3)* This course covers advanced principles of body composition assessment and management. Methods of body composition assessment will be covered with a focus on aging, obesity, sarcopenia and bone health. The impact of physical activity and pharmacology will be reviewed.

*NSC 575 – Nutrigenomics for the Study of Disease Prevention & Intervention (3)* Nutrigenomics is the application of genomics to human nutrition. This online course will explore relevant technologies, genetics & nutrition. Designed by researchers in colleges & centers of excellence, it will be continually updated with the latest information. Graduate-level requirements include Nutrigenomics/Organization of the genome; Advanced Models; Target validation; Mouse models; lab assignments; Advanced discussion board questions (4 total) are due after each unit.

*PLUS Course work (6 units)* Please refer to page 9 for more information regarding PLUS course options.

*NSC 597 – Capstone Prep Workshop (1)* The Capstone Workshop Prep course is designed to help students: identify potential sites for their capstone courses, develop talking points when discussing the capstone with potential sites, obtain the required affiliation requirements with their site, build knowledge of research requirements through completion of CITI trainings and further develop presentation and writing skills.

*NSC 698A – Capstone I (3)* Capstone I consists of 135 hours of practical professional training with a sponsoring agency/facility. Students will conduct a needs assessment and propose a topic for final project to be completed in NSC 698B. Students will write a progress report which will be presented to the class.

*NSC 698B – Capstone II (3)* Capstone II consists of 135 hours of practical professional training with a sponsoring agency/facility that culminates the Professional Science Master program and produces a final project. Students will develop a final report on the project objectives, methods, and outcomes. The project will be presented to the class in a presentation form, and a poster will also be produced.

## **NETID AND EMAIL**

Your NetID is your personal identifier for a number of online services at the University of Arizona, including email and UITS computing accounts (CatMail, UAConnect), UAccess account, D2L (learning management system and university site-licensed software).

The UA NetID verifies identify when it is used for online services the University of Arizona provides. To set up your NetID, please visit: <https://netid.arizona.edu/>

Your CatMail account is created automatically when you select your NetID. The new email address with all have the format your [NetID@email.arizona.edu](mailto:NetID@email.arizona.edu), and it is the official means of communication between the students and the university. It is required that you use your UA email for communication with your instructors. You will also receive notification of tuition bills, etc. via this email address. The email is provided by the Google G Suite for Education, which provides access to Google's full suite of applications. For more information, please visit: [it.arizona.edu/service/catmail-student-email](http://it.arizona.edu/service/catmail-student-email)

## **CATCARD**

The CatCard is the official University of Arizona Identification card. The card features a digitized photo, digitized signature, Contactless SmartChip, ISO number and magnetic stripe. It is up to you how you want to use your card.

As an online student, it is not required to obtain a CatCard, but there are many benefits, like using/showing your card to obtain student discounts. As an online student, you are able to obtain a CatCard, but first you will need to upload a photo. To learn more about this process, and to obtain your card, please visit: <https://myphoto.catcard.arizona.edu/index.aspx>

## **D2L (DESIRE2LEARN) BRIGHTSPACE**

D2L provides instructors and students with an online space for traditional classroom courses, online classes, or hybrids. In D2L you will find:

- Course syllabi
- Readings
- Assignments
- Quizzes
- Grades
- List of classmates
- Online discussions
- And more....



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D2L includes access to tools such as ZOOM, Panopto, VoiceThread and Examity. To access D2L, please visit: <https://d2l.arizona.edu/> . For assistance with D2L, please visit: <http://help.d2l.arizona.edu/student/student-home>

D2L requires that you submit files as Microsoft Office compatible (i.e. WORD) or as PDF files. Other file types (i.e. PAGES) will not be accepted. As a UA student, you are able to download Microsoft Office 365 for your use. For more information, please visit: <http://uabookstore.arizona.edu/technology/campuslicensing/default.asp>

Other software is available to students for free or a discounted fee. Please visit this site for more details: <https://softwarelicense.arizona.edu/students>

## **UNIVERSITY OF ARIZONA LIBRARIES**

The University of Arizona libraries provide resources, services and expertise to the University and the local community, the main library website can be found at <http://new.library.arizona.edu/>

There is a library resource page set up specifically for Applied Nutrition students, please access: <http://libguides.library.arizona.edu/gcpsm> for more information. This website has the contact information for the librarian for the College of Agriculture and Life Sciences, as well as links for information that is relevant to graduate students and to online students.

## **STUDENT SUPPORT AND RESOURCES**

The Graduate College has many resources available, for more information visit: <http://grad.arizona.edu/new-and-current-students>

The department of Academic Success & Achievement provides a service called SOS (Support, Opportunity, Success). SOS is for UA students who find themselves facing questions or issues and are unsure about where to go for answers. Whether you're brand-new to campus or have been around for a while, just reach out to SOS for round-the-clock support. Access their website to learn more about SOS, or to ask a question: <https://sos.arizona.edu/>

The Disability Resource Center (DRC) is focused on creating inclusive learning and working environments and facilities through all aspects of the University of Arizona. The access consultant for the Graduate College is Jayci Robb and she can be reached at: [jacyir@email.arizona.edu](mailto:jacyir@email.arizona.edu). For more information regarding the DRC, please visit their webpage: <https://drc.arizona.edu/>

## STUDENT RESPONSIBILITIES AND PROFESSIONAL CONDUCT

Please visit the following link for more information regarding the Student Code of Conduct at the University of Arizona: <https://deanofstudents.arizona.edu/student-rights-responsibilities/student-code-conduct>

### IMPORTANT LINKS

- Graduate College – access to Graduate College policies, contacts, information about resources, deadlines and other useful information: <http://grad.arizona.edu>
- Resources for professional development and health and wellness please visit: <http://grad.arizona.edu/new-and-current-students>
- General Catalog provides comprehensive information related to all academic programs at the University of Arizona: <http://catalog.arizona.edu/>
- Academic Integrity – please review the code of academic integrity: <https://deanofstudents.arizona.edu/policies-and-codes/code-academic-integrity>
- Responsible Conduct of Research: <http://www.orcr.arizona.edu/>

It is the Department of Nutritional Sciences policy that the student holds final responsibility for being aware of and responding to all Nutritional Sciences, Graduate College and University of Arizona polices, requirements, formats and deadlines as they pertain to progression towards and completion of their program. If any questions persist following review of all policies, please contact your program coordinator for assistance and clarification.

### STUDENT OUTCOMES

- Critically evaluate nutrition sciences research and demonstrate knowledge of research methods and statistics.
- Apply evidence-based nutrition concepts to a professional setting, i.e. clinical, communication, education and industry.
- Demonstrate professional interpersonal skills including communication, collaboration and leadership.

### INCOMPLETE POLICY

Students earning a grade of Incomplete, “I” for a course should submit a completed Report of Incomplete Grade form to the program coordinator for inclusion in their academic record. This form is available here: <http://registrar.arizona.edu/grades/incomplete-i-grade>. Incomplete grades should be completed in a timely manner and are submitted at the discretion of the course instructor.

## REMEDIATION

All coursework must be passed with a grade of C or better for the units to count towards the required 30 units of the degree. An overall GPA of > 3.0 in the program is required for graduation.

Students judged to have academic difficulties (e.g. poor, grades, failing or at risk of failing to satisfy program requirements) will receive notice from the program coordinator with specific suggestions as to how these problems might be remedied and the data by which such actions must be taken. This notification will be copied to the Graduate College. The Graduate College has established guidelines; which departments must follow in order to dismiss students from their programs. Students should familiarize themselves with the steps so they know their rights, responsibilities, and remedies should such a situation develop. Students who fail to remediate by the deadlines specified may be dismissed from the program.

## PLUS COURSES

Students following the approved timeline will be taking two PLUS courses (6 credits) in the Spring of 2021. The courses listed below were scheduled for Spring 2020 semester, which can be used to plan for possible PLUS courses. However, the Spring 2021 schedule will not be released until Fall 2020, therefore we cannot guarantee that these classes will be offered. If you will be changing your timeline, and taking PLUS courses at a different semester, please contact the program coordinator regarding available PLUS courses for that semester.

### **SPRING 1<sup>st</sup> 7 Week Session**

*HPS 530 - Nutrition, Health and Development (2 units)* This course focuses on nutritional issues of women and children in low and middle income countries. Local and international programs that combat malnutrition will be evaluated in the context of socioeconomic development and current political/economic policies and realities.

*NURS 520 – Foundations of System Leadership (3 units)* Learners will explore basic concepts related to the healthcare system, professional knowledge, and quality and safety using a systems perspective. Please contact Cheryl Lacasse at [clacasse@email.arizona.edu](mailto:clacasse@email.arizona.edu) if you are interested in adding this course.

*NURS 540 – Health Promotion and Risk Reduction (4 units)* Learners will apply concepts of health promotion and risk reduction at the individual and interpersonal level of care. Emphasis will be placed on evidenced-based strategies that acknowledge patient-centered values and beliefs in the process of optimizing health and well-being. Please contact Cheryl Lacasse at [clacasse@email.arizona.edu](mailto:clacasse@email.arizona.edu) if you are interested in adding this course.

*NURS 543 – Health Information and Patient Care Technologies (3 units)* Learners will evaluate and apply emergent healthcare technologies such as point of care clinical decisional support, telehealth/medicine, and electronic documentation that support patient-provider communication,

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interprofessional practice, and coordinated patient care delivery. Please contact Cheryl Lacasse at [clacasse@email.arizona.edu](mailto:clacasse@email.arizona.edu) if you are interested in adding this course.

**NURS 640 – Healthcare Business Dynamics (3 units)** Learners will apply business concepts and principles across a variety of healthcare settings. Concepts include the following: organizational structure and finance, budgeting, cost-benefit analysis, marketing, resource allocation, innovation, and entrepreneurship. Business values consistent with patient-centered care will be highlighted. Please contact Cheryl Lacasse at [clacasse@email.arizona.edu](mailto:clacasse@email.arizona.edu) if you are interested in adding this course.

### **SPRING 2<sup>nd</sup> 7 Week Session**

**ENGL 514 – Advanced Scientific Writing (3 units)** Preparation of professional literature for publication. Graduate-level requirements include longer and more detailed papers.

**NURS 521 – Evidence-Based Practice Improvement (4 units)** Learners will analyze and apply evidence for selected areas of clinical practice to facilitate optimal patient outcomes. Evidence will be used to develop, validate, and endorse strategies for system-wide practice improvements. Please contact Cheryl Lacasse at [clacasse@email.arizona.edu](mailto:clacasse@email.arizona.edu) if you are interested in adding this course.

**NURS 545 – Healthcare Environments and Care Coordination (4 units)** Learners will examine health policy and regulation, health economics, and advocacy across the health care continuum. Learners will also apply advocacy strategies to transition at risk individuals across the health care continuum. Please contact Cheryl Lacasse at [clacasse@email.arizona.edu](mailto:clacasse@email.arizona.edu) if you are interested in adding this course.

### **PHIL 515 – Healthcare Ethics (3)**

This course explores many challenging moral questions related to situations encountered by health care professionals. For example: What rights and responsibilities come with the role of healthcare provider? Should the healthcare provider always disclose to a patient the full truth about his or her diagnosis? Should diagnosis and treatment errors be disclosed to patients? Under what circumstances is it morally permissible to break patient confidentiality? Why does moral distress arise in medical professionals who regularly deal with futility of treatment cases? Should one have absolute rights over one's body (e.g. with respect to euthanasia) or are there other moral considerations that limit such freedom? What is the proper justification for allocation of moderately scarce resources? Should everyone have an absolute right to health care, and who should provide access? As we explore these and many other questions, we will learn about some major moral theories along the way, with an emphasis on applying them to real world moral problems.

This course will give you skills for recognizing the scope and force of an ethical conflict when it occurs and ways of becoming more reflective and open-minded about differing moral views. I also hope to provide you with the skills to cogently defend your principles and lobby for changes in regulations when there is a perceived need. The skills acquired in philosophical argument are indispensable for engaging with the evolving moral discussions surrounding medical ethics.

### **Spring Full 15 Week Semester**

**AED 621 - Program Planning and Evaluation (3 units)** Developing and evaluating programs in teaching and extension; situation analysis, objectives, policies, content, procedures, and evaluative criteria.

**ALC 510 - Entrepreneurial Leadership in Agriculture and the Life Sciences (3 units)** This course is an exploration of the principles and practices of entrepreneurial leadership, and the application of such principles and practices within agricultural and rural communities, the Cooperative Extension system, educational organizations and systems, agricultural agencies at the local, state, and federal levels, and agricultural enterprises and life sciences industries. Emphasis is placed on the knowledge and skills required to effectively lead change within and across organizations, communities, and settings that intersect the agricultural and life sciences fields. Graduate students will thoroughly outline a lesson plan (learning objectives, measurable learning outcomes, instructions methods, etc.) specific to entrepreneurial leadership topic to be delivered to an audience of adult learners within a non-formal (or informal) community setting.

**NURS 740 – Theories in Complex Systems Sciences and Integrative Health (3 units)** This course introduces the meta-theoretical perspectives of complex systems science, including contributing theories (e.g. systems theory, complex adaptive systems, network theory, and nonlinear dynamics). An exploration of mid-range and practice theories for selected integrative therapies and whole systems of care (e.g. Traditional Chinese Medicine, traditional healing systems, yoga, and tai chi chaun), along with implications of these theoretical perspectives on clinical processes (diagnosis, treatment, and human response), research methods, and expected treatment outcomes across level of scale will be discussed.

**PHPM 561 - Introduction to Health Care Quality and Safety (3 units)**

This course provides an overview of health care quality and safety. Students will learn quality improvement concepts and techniques and will practice the techniques in teams. \*\*PHPM 574 or instructor permission.