

**RESOLUTION TO APPROVE MASTER OF SCIENCE DEGREE
IN NUTRITION AND DIETETICS**

MATERIALS INCLUDED

- Resolution
- Overview of degree proposal
- Degree proposal

RESOLUTION TO ESTABLISH A MASTER OF SCIENCE DEGREE IN NUTRITION AND DIETETICS

WHEREAS, the Department of Human Nutrition, Foods and Exercise proposes a master's degree administered from Blacksburg VA, and focused on preparing competent, graduate-trained registered dietitian nutritionists who are prepared to work in a variety of practice areas and contribute to advancing the professional practice; and

WHEREAS, the degree prepares students for careers in nutrition counseling, promotion of dietary guidelines and healthy dietary behaviors, and utilizing emerging evidence-based practices to develop interventions and programs with significant impact at the individual, community, and population levels. This includes employment as a registered dietitian nutritionist in hospitals and other health facilities, research centers, government agencies, non-profit organizations, schools, restaurants and other food-related retail outlets, and marketing and public relations firms; and

WHEREAS, the US population of elderly, obese, and patients with chronic disease has grown dramatically in the last 10-15 years, with a concomitant demand for additional professionals in the field qualified to reduce chronic diseases through food and nutrition with an emphasis on preventive care and personalized nutrition; and

WHEREAS, starting in 2024 a graduate degree will be required to sit for the Commission on Dietetics Registration credentialing exam; and Virginia Tech is uniquely suited to offer such a degree program through its proven capacity to prepare professionals in this sector as evidenced by sustained enrollment in the award-winning undergraduate degree program and dietetic internship; and

WHEREAS, the preparation of future dietetics professionals is a natural fit with a public land-grant university serving the Commonwealth of Virginia, nation, and world community to improve quality of life; and this will be the first graduate level Accreditation Council for Education in Nutrition and Dietetics Future Education Model program in the Commonwealth of Virginia; and

THEREFORE, BE IT RESOLVED, that the master of science degree in nutrition and dietetics be established effective Fall, 2019 and the proposal forwarded to the State Council of Higher Education for Virginia (SCHEV) for approval.

RECOMMENDATION:

That the above resolution recommending the establishment of the master of science degree in nutrition and dietetics be approved.

November 5, 2018

MS NUTRITION AND DIETETICS

- Background
 - Increased focus in the health professions on disease prevention and integrative healthcare
 - Scope of dietetics' practice expanded to include foci and settings beyond the traditional settings of acute and long-term clinical care, food service management, and community programming
 - Emerging areas - genomics, telehealth, behavioral counseling, diet order writing, informatics, organizational leadership, evidence based-practice, project management, and communication
- Accreditation
 - Accreditation Council for for Education in Nutrition and Dietetics (ACEND)
 - Entry-level requirements for registered dietician nutritionists raised from bachelors to masters level to accommodate needed skillset

MS NUTRITION AND DIETETICS

- Purpose
 - Provide graduate curriculum and internship
 - Meet evolving needs of the field & ACEND standards
 - Registered Dietician Nutritionist
- Employment
 - Hospitals, ambulatory care/outpatient clinics, group care facilities, long-term care facilities, home health or hospice programs, schools (K-12 & postsecondary), restaurants/cafeterias, food service equipment and supply companies, grocery and other retail outlets
 - Research centers, government agencies, non-profit organizations, commodity groups, and marketing and public relations firms



Office of the University Registrar (MC 0134)

Proposal for Revision, Discontinuation, or New Checksheets, Options, Concentrations, and Degrees

General Information			
Proposal Date	12/1/2017	15-Day Review End Date	
Department	HNFE		
Degree/Major (as applicable)	Master of Science Nutrition and Dietetics		
<input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor <input type="checkbox"/> Option/Concentration <input type="checkbox"/> Graduate Certificate <input type="checkbox"/> University Concentration			
Dean and/or Departmental Contact	Madlyn Frisard		Contact Mailcode 0430
Contact Phone	231-9994	Contact E-Mail	frisardm@vt.edu

Check ONLY ONE of the following boxes			
<input type="checkbox"/> New Undergraduate Checksheet <input type="checkbox"/> New Minor <input type="checkbox"/> New Pathways Minor Complete Part II <input type="checkbox"/> New Option <input type="checkbox"/> New University Concentration <input type="checkbox"/> New Concentration <input type="checkbox"/> New Graduate Certificate <input checked="" type="checkbox"/> New Degree	<input type="checkbox"/> Revised Checksheet (Revision > 20% _____ Revision < 20% _____) <small>Attach copy of current APPROVED checksheet</small> <input type="checkbox"/> Revised Minor <small>Attach copy of current APPROVED checksheet</small> <input type="checkbox"/> Revised Pathways Minor <small>Attach copy of current APPROVED checksheet</small> <input type="checkbox"/> Revised Option <small>Attach copy of current APPROVED checksheet</small> <input type="checkbox"/> Revised University Concentration <small>Attach copy of current APPROVED checksheet</small> <input type="checkbox"/> Revised Concentration <small>Attach copy of current APPROVED checksheet</small> <input type="checkbox"/> Revised Graduate Certificate <input type="checkbox"/> Revised Degree	<input type="checkbox"/> Discontinued Minor <small>Attach Transition Plan</small> <input type="checkbox"/> Discontinued Pathways Minor <small>Attach Transition Plan</small> <input type="checkbox"/> Discontinued Option <small>Attach Transition Plan</small> <input type="checkbox"/> Discontinued University Concentration <small>Attach Transition Plan</small> <input type="checkbox"/> Discontinued Concentration <small>Attach Transition Plan</small> <input type="checkbox"/> Discontinued Degree <small>Attach Transition Plan</small>	

Effective Date	Graduating Class Of 2020	(List Year Only)
For all Checksheets (NEW and REVISED)	Attach statement from Dean or Departmental Representative outlining the changes from the currently APPROVED Checksheet and method(s) of communication to students impacted by these changes.	
Attach appropriate letters of support from affected Departments and/or Colleges		
Revised checksheets with 20% or less revision can be forwarded directly to the Office of the University Registrar (0134) for Administrative Approval. Supporting documentation should be attached.		

Revision Summary

Approval Signatures			
Department Representative		Date	12/1/17
College Curriculum Committee Representative		Date	12/13/17
College Dean		Date	1/11/18

Virginia Tech Degree Proposal
Master of Science Nutrition and Dietetics
(CIP: 51.3101 (Dietetics/Dietitian))

Type of degree action (circle one): **New** Spinoff Revision Discontinuance

Program Description

Virginia Polytechnic Institute and State University (Virginia Tech) requests approval for a new Master of Science (MS) Degree in Nutrition and Dietetics to commence in the fall 2019 semester. This new degree will be housed within the Department of Human Nutrition, Foods, and Exercise (HNFE), located in the College of Agriculture and Life Sciences. Other programs and departments involved in sponsoring this request include the Department of Statistics, the School of Education Counselor Education Degree Program, and Carilion Clinic Dining and Nutrition Services. These joint efforts will enable the applied degree in Nutrition and Dietetics to fulfill its mission of preparing HNFE graduate-trained RDNs to be effective practitioners in a variety of positions as well as to advance professional practice.

Chronic diseases (heart disease, stroke, cancer, type 2 diabetes, obesity, and arthritis), are among the leading causes of morbidity and mortality in the United States and globally ¹. As of 2012, about half of all adults—117 million people—had one or more chronic health conditions and in 2014 in the United States, the direct costs of medical treatment for these and other health conditions causally related to obesity and overweight totaled \$427.8 billion. These lifestyle-related diseases, whose etiology, prevention and treatment are influenced primarily by diet, physical activity, and use of alcohol and tobacco products, impose a tremendous financial burden on the health care system. More importantly, the effects of these conditions could be effectively mitigated with the appropriate changes to the built environment and interventions that encourage population-wide behavioral change. However, in order for this to happen, there must be experts in the field in the areas of food and nutrition, dietary guidelines and dietary behaviors, nutrition counseling and behavior modification, nutritional pharmacology, nutritional genomics, food and nutrition policy, all of which are included as key competencies in the proposed graduate program in Nutrition and Dietetics.

The current pathway for individuals pursuing a career in the nutrition and dietetics field includes earning a minimum of a Bachelor's degree, completing a Verification Statement from an Accreditation Council for Education in Nutrition and Dietetics (ACEND)-accredited program, completing 1200 hours or more of supervised practice from an ACEND-accredited program, passing the Commission on Dietetic Registration Examination for Dietitians, and following appropriate state laws that regulate the practice of dietetics. Currently, students must earn a Bachelor's degree as well as a verification statement to be eligible to sit for the exam for dietitians. In 2012, the Academy of Nutrition and Dietetics' Council on Future Practice recommended that the level of educational preparation for dietitians be elevated to a graduate level to provide a greater depth of knowledge and skills needed for future practice in the profession. As a result, in 2013 the Commission on Dietetic Registration changed the entry level registration eligibility education requirements for dietitians, beginning in 2024, from a baccalaureate

¹ <https://www.cdc.gov/chronicdisease/overview/index.htm>

degree to a minimum of a graduate degree. In response to this change, the Accreditation Council for Education in Nutrition and Dietetics (ACEND), the accrediting agency for the Academy of Nutrition and Dietetics, developed the Future Education Model (FEM), a new model for education in nutrition and dietetics with the purpose of advancing the profession and protecting the public. ACEND's Future Education Model moves the educational preparation of entry level dietitian nutritionists to the graduate degree level and incorporates new competencies and standards designed to address areas where dietitians could benefit from advanced knowledge and skills.

In response to these needs and changes; and a desire by the faculty in the department to continue to evolve the dietetics offerings at VT, the Department of Human Nutrition, Foods and Exercise in the College of Agriculture and Life Sciences has developed the Master of Science in Nutrition and Dietetics Degree Program to align with the new ACEND FEM graduate requirements. This coursework-only degree program with a planned start date of August 2019 is designed to prepare competent graduate-trained registered dietitian nutritionists (RDNs) who are prepared to work in a variety of practice areas and contribute to advancing professional practice. The program combines coursework with supervised experiential learning activities (supervised practice) to meet the ACEND's FEM standards and will enable graduates of the program to be eligible to sit for the Commission on Dietetic Registration (CDR) RDN national registration exam.

The skill set for RDNs is based on evidence-informed practice, critical thinking and analysis, interpersonal communication, nutrition, and management skills. Dietitians must be prepared to manage the nutrition care of clients/ patients, provide nutrition and health information, manage projects, develop and implement programs, lead interprofessional teams, conduct research, direct foodservice operations, and educate future dietetic professionals. Job settings and positions for Master degree prepared Registered Dietitian Nutritionists (RDNs) focus on medical nutrition therapy, food and nutrition research, client/ patient counseling, community programming, food service operations, and population and global health programming and initiative development. Graduates are expected to be competitive for employment as a RDN in the following settings: hospitals, ambulatory care/ outpatient clinics, group care facilities, long-term care facilities, home health, or hospice programs; research centers, government agencies, non-profit organizations, or schools (elementary, middle, high school, college, university); restaurants and cafeterias, food companies (including manufacturing and distribution), food service equipment and supply companies, pharmaceutical companies, grocery and other retail, commodity groups, or marketing and public relations firms. The proposed program is designed to prepare dietitians to work in these various settings.

Curriculum Summary

The Master of Science in Nutrition and Dietetics comprises 51 credits within the Department of Human Nutrition, Foods, and Exercise with support from the Department of Statistics and the School of Education Counselor Education Degree Program. A prescribed set of courses is required as part of the core program designed to achieve the competencies established in the ACEND FEM and to prepare HNFE graduate-trained RDNs to be effective practitioners in a variety of positions as well as to advance professional practice.

The core program will consist of courses comprising 31 credit hours in the following required courses: HNFE 5125G and HNFE 5126G Advanced Medical Nutrition Therapy (6), HNFE 5154 Research Methods in Nutrition and Physical Activity (3), STAT 5615 Statistics in Research (3), HNFE 5314 Business of Dietetics and Healthcare (3), EDCO 5214 Theories of Counseling and Consultation (3), HNFE 5344 Nutrition Counseling for Behavior Change (3), HNFE 5354 Food for Optimal Health (3), HNFE 5324 Public Health Nutrition Policies and Programs (3), HNFE 5334 Clinical Nutrition Care Applications (2), HNFE 5304 Principles of Dietetics and Nutrition Practice (1), and HNFE 5464 Professional Practice in Nutrition and Dietetics (1). The coursework has been designed to provide the foundation necessary for students to be able to achieve the standards and competencies outlined in the future education model. After successfully completing the ladder coursework, students will have developed the knowledge and skills necessary to be able to enter into the required 20 credits of supervised experiential learning in clinical, management, and community settings.

Relevance to University Mission and Strategic Planning

The Virginia Tech Mission Statement states, “Virginia Tech is a public land-grant university serving the Commonwealth of Virginia, the nation, and the world community. The discovery and dissemination of new knowledge are central to its mission. Through its focus on teaching and learning, research and discovery, and outreach and engagement, the university creates, conveys, and applies knowledge to expand personal growth and opportunity, advance social and community development, foster economic competitiveness, and improve the quality of life.”

The mission of the college of Agriculture and Life Sciences is to create, integrate, and share knowledge to enhance: Life sciences, food, and agricultural systems, the economic prosperity and life quality of the greater community, the stewardship and health of land, water, and air for future generations, and student learning through diverse, hands-on, experiential opportunities. The mission of the Department of Human Nutrition, Foods and Exercise is to discover, translate, and disseminate health-related advances in the nutrition, food, and exercise sciences.

The program’s mission of preparing HNFE graduate-trained RDNs to be effective practitioners in a variety of positions as well as to advance professional practice aligns well with the missions of Virginia Tech, CALS, and HNFE. Preparation of future dietetics professionals is a natural fit with a public land-grant university serving the Commonwealth of Virginia, nation, and world community to improve quality of life. The university, college and department missions emphasize the discovery and sharing (dissemination) of knowledge to enhance student learning, communities, and environments, all characteristics of a successfully prepared dietetics program graduate. The MS Nutrition and Dietetics degree program fits well within the college mission areas related to life sciences, food, and life quality of the greater community as many program graduates will move forward into employment in these areas, and may pursue additional graduate programs (doctoral programs) and advanced certifications such as the Dietetics Board Certified Specialist in Sports Dietetics or Certificate of Training in Weight Management.

Improvement of health, well-being, and/or quality of life are specifically included in each mission statement, which is consistent with a career as a RDN. The theme of

advancement through discovery and hands-on learning is also consistent with the program's mission of advancing professional practice with graduate trained RDNs. Outreach through service are key to Virginia Tech's mission and to RDN's as well. The MS Nutrition and Dietetics program can achieve successful preparation of students within a college with a mission valuing student learning through diverse, hands-on, experiential opportunities. The other organizational mission statements identify and place value on outreach, extension, and interdisciplinary efforts, all foundational components to dietetics practice. Through the innovative educational curricula, the use of experiential and service learning models to incorporate novel content with training and practice, unique collaborations with Carilion Clinic and other local and regional organizations, and the dissemination of evidenced-informed practice to the community, this new program is in direct alignment with Virginia Tech's focus of teaching and learning, research and discovery, and outreach and engagement.

Finally, this new graduate degree in the Department of Human Nutrition, Foods and Exercise is ideally suited to contribute to two of Virginia Tech's new thrust areas: 1) the Adaptive Brain and Behavior destination area, and 2) Health Science and Technology Innovation District, both of which are aimed at employing innovative, transdisciplinary, translational approaches to improve our understanding of the links between the adaptive brain and behaviors that affect metabolism and obesity, and overall human health across the lifespan.

Justification for the Proposed Program

The proposed Master of Science in Nutrition and Dietetics degree program is a direct response to the evolving needs of the healthcare and dietetics field. The degree will meet the new FEM requirements of entry level generalist dietitian nutritionists at a graduate degree level set forth by CDR, the credentialing agency for RDNs. This change from CDR was based on the expanding scope of practice for those working in the profession resulting in an emergence of many non-traditional practice settings for the field of nutrition and dietetics. The Master of Science in Nutrition and Dietetics at Virginia Tech will provide such training that will address these needs and lead its graduates to excellent job opportunities. The logic for the new degree is based on the following arguments.

- 1. There is a need for master's level graduate training in nutrition and dietetics to accommodate the expanding scope of practice of RDN's.*

The Accreditation Council for Education in Nutrition and Dietetics (ACEND) is recognized by the United States Department of Education as a Title IV gatekeeper and operates to serve and protect students and the public by assuring the quality and continued improvement of nutrition and dietetics education programs. For the past 50+ years ACEND registered dietitian nutritionist (RDN) educational standards have required that individuals complete specified coursework and earn a minimum of a baccalaureate degree to be eligible to apply for and complete a 1200+ hour supervised practice dietetic internship. Once the supervised practice internship is successfully completed, an individual has achieved eligibility to sit for the Commission on Dietetic Registration (CDR) national Registration Examination for Dietitians. As the credentialing agency for

the profession of dietetics, CDR is charged with the establishment of registration eligibility requirements for its certifications. In April of 2013, the CDR Board voted to change the entry-level registration eligibility education requirements for registered dietitian nutritionists (RDN)s, beginning in January 2024, from a baccalaureate degree to a minimum of a graduate degree. This decision was based on the recommendations of the Academy of Nutrition and Dietetics Future Practice and Education Task Force, along with professional practice audits. The task force identified areas where entry level RDNs could benefit from more advanced knowledge and skills including research and technological skills, behavioral counseling skills, ability to collaborate as part of an interdisciplinary team, prescriptive authority, case management, knowledge of coding and billing, nutritional genomics, nutritional pharmacology, and food and nutrition policy. Additionally, the changing landscape of health care systems, administration, and delivery in the United States have created the need to include additional core knowledge content in dietetics education.

In recent years, the scope of dietetics' practice has expanded to include foci and settings beyond the traditional settings of acute and long-term clinical care, food service, and community and public health education and management. There is an increased focus in the health profession on disease prevention and integrative healthcare and the need for more knowledge in emerging areas such as genomics, telehealth, behavioral counseling, diet order writing, and informatics²³⁴⁵⁶. As a result, this work requires that health care professionals work more interprofessionally with improved communication skills and an improved ability to understand the patient's community and cultural ecosystem. A need for graduate level skills related to organizational leadership, project management, and communication has also been highlighted. Furthermore, practitioners need to be able to read, apply, interpret, and communicate scientific knowledge to their patients and the public.

The Accrediting Council for Education in Nutrition and Dietetics (ACEND) conducted a competency gap analysis to examine current RDN competencies and projected skills required for the successful future of RDNs and several themes emerged. It was determined that competency-based Master-level training could address gaps in skills such as nutritional genomics, telehealth, nutritional pharmacology, case management, behavioral counseling, prescriptive authority, coding and reimbursement, interprofessional work, evidence-based practice, and nutrition informatics⁷. This resulted in the development of the future education model (FEM) designed to address these gaps in knowledge and skills related to the future of dietetics practice. The MS in Nutrition and Dietetics degree incorporates advanced training in the referenced skill gaps along

² Academy of Nutrition and Dietetics. Standards of professional performance for registered dietitian nutritionists (competent, proficient and expert) in sustainable, resilient and healthy food and water systems. *J Acad Nutr Diet.* 2014;114(3):475-488.

³ LeFevre ML, The U.S. Preventive Services Task Force. Behavioral counseling to promote a healthful diet and physical activity for cardiovascular disease prevention in adults with cardiovascular risk factors: U.S. preventive services task force recommendation statement. *Ann Intern Med.* 2014;161(8):587-93.

⁴ Fitzgerald N, Morgan KT, Slawson DL. Practice paper of the Academy of Nutrition and Dietetics abstract: the role of nutrition in health promotion and chronic disease prevention. *J Acad Nutr Diet.* 2013;113(7):983. doi:10.1016/j.jand.2013.05.007.

⁵ Slawson DL, Fitzgerald N, Morgan KT. Position of the Academy of Nutrition and Dietetics: the role of nutrition in health promotion and chronic disease prevention. *J Acad Nutr Diet.* 2013;113(7):972- 979. doi:10.1016/j.jand.2013.05.005

⁶ Olstad DL, Raine KD, McCargar LJ. The role of registered dietitians in health promotion. 264 *Can J Diet Pract Res.* 2013;74(2):80-83. PMID: 23750980.

⁷ [Rationale for Future Education Preparation of Nutrition and Dietetics Practitioners](#)

with numerous other competencies and skills outlined by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) Future Education Model (FEM).

Additionally, as a result of a 2014 Centers of Medicare and Medicaid Services ruling, RDNs now have order writing privileges including diet orders for modified diets and medical nutrition therapy including vitamin/ mineral supplementation, enteral and parenteral nutrition and can order nutritional laboratory tests ⁸. A complex knowledge of pharmacotherapy is needed to carefully select and time medical nutrition therapy in patients also receiving medication therapy. These new skills and competencies require advanced training in the referenced areas.

Finally, the worldwide population is expected to exceed nine billion by the year 2050 and as a result the protection of natural resources and sustainable initiatives have been a significant focus to ensure the availability of safe and healthy food and water. This relatively new practice area for future nutrition and dietetics professionals requires focused knowledge, systems analysis, and environmental change strategies addressing quality, quantity, and safety on human, environmental, economic, and social health. ⁴.

2. There is an increased demand for registered dietitian nutritionists.

According to an analysis conducted by the Lewin Group, a professional consulting firm, in conjunction with the Academy of Nutrition and Dietetics and Commission on Dietetics Registration, “if current supply factors and limitations persist there will be a shortfall between demand for services and the capacity of the dietetics workforce. By 2020, a projected shortfall of approximately 18,000 full-time workers (or more) may exist” ⁹. There are a variety of reasons for the increase in demand. An increase in the population of elderly, obese, and patients with chronic disease in addition to a greater number of insured individuals is part of the explanation. Emphasis on preventive care, personalized nutrition, an increase in disposable income, and expansion of RDN services to non-traditional venues may also be factors ¹⁰. Data from CDR also reveal that 51% of the approximately 81,000 RDNs credentialed in 2010 were 45 years or older, indicating that a substantial portion of the RDN workforce may be retiring within 10-20 years ¹¹. The Master of Science in Nutrition and Dietetics will work toward a national professional goal of increasing the supply of RDNs.

In addition, the U.S. Bureau of Labor Statistics (2010) has projected a significant growth in demand for diabetes educators due to an expansion of federally qualified health centers and other community health centers ¹². As RDNs are one of the few professions eligible to become “certified diabetes educators”, graduates of this program will be uniquely situated to serve many of these new roles.

⁸ Federal Register. Medicare and Medicaid programs; regulatory provisions to promote program efficiency, transparency and burden reduction; part II. <https://www.federalregister.gov/articles/2014/05/12/2014-10687/medicare-and-medicicaid-programs-regulatory-provisions-to-promote-program-efficiency-transparency-and>. Published May 12, 2014. Accessed August 27, 2014.

⁹ Hooker RS, Williams JH, Papneja J, Sen N, Hogan P. Dietetics Supply and Demand: 2010-2020. *J Acad Nutr Diet*. 2012 Mar;112(3 Suppl):S75-91. doi: 10.1016/j.jand.2011.12.024.

¹⁰ Marsha Rhea, MPA, CAE; Craig Bettles, MA Future Changes Driving Dietetics Workforce Supply and Demand: Future Scan 2012-2022. *J Acad Nutr Diet*. 2012;112(suppl 1):S10-S24.

¹¹ Rogers D. Dietetics trends as reflected in various primary research projects, 1995-2011. *J Acad Nutr Diet*. 2012 Mar;112(3 Suppl):S64-74. doi: 10.1016/j.jand.2011.12.010.

¹² Martin AL, Lipman RD. The future of diabetes education: expanded opportunities and roles for diabetes educators. *Diabetes Educ*. 2013;39(4):436-446.

3. *The changing landscape of the medical health profession and professional degree maturation.*

The medical and educational landscapes have changed greatly and continue to change. Over that time, the practice of medicine has become increasingly complex in three main areas: new knowledge (e.g. genetics and implications of therapy); new skills (e.g., use of information and medical technology); and professional attitudes, which are taking on greater importance in ensuring public trust in medical professionals. These increasing complexities have mandated curriculum reform and the development of objective assessment tools to measure student knowledge, skills and attitudes, as well as the need to prepare students to be self-directed critical thinkers who can adapt to changes in the field.

As a result of this change, a number of health professions have recently increased degree requirements including audiology, occupational therapy, pharmacy, physical therapy, and physician assistant. Furthermore, other health professions are considering increased degree requirements, such as dental hygiene. Dietetics professionals theorize that an advanced degree accompanied by enhanced competencies will impact responsibilities and scope of practice for RDNs in the workplace, reimbursement landscape, and in salary/compensation ¹³.

Student Demand

Evidence of student demand comes from two sources: 1) a survey of demand among Virginia Tech and Radford University undergraduate students and Virginia Tech Graduate Students, and 2) inquiries from prospective students.

Student Survey

In the spring and summer 2017, the Department of Human Nutrition, Foods, and Exercise conducted a survey of undergraduate students at Virginia Tech and Radford University and Graduate students at Virginia Tech. The survey was sent to undergraduate students taking courses in the dietetics option within the HNFE department at Virginia Tech, undergraduate students taking courses in the department of Health and Human Performance at Radford University, and students in the graduate program in the HNFE department at Virginia Tech. We focused on undergraduate students who were in the Dietetics option/ major at both universities and graduate students who were completing the undergraduate dietetics curriculum while in the graduate program in the HNFE department at Virginia Tech. A total of 34 undergraduate and graduate students completed the survey. Of these, 11 were graduate students, 13 were seniors, and 10 were juniors. Of the 23 seniors and juniors, 13 were very interested, 4 were moderately interested, and 6 were mildly interested in pursuing the degree if Virginia Tech offered a Master of Science (MS) in Nutrition and Dietetics. Seven of the 11 graduate students were very interested in pursuing the degree if Virginia Tech offered a Master of Science (MS) in Nutrition and Dietetics. Three graduate students stated they would not be interested in pursuing the degree if offered.

Inquiries from prospective students

¹³ Jana R. Kicklighter, PhD, RD, LD; Mary M. Cluskey, PhD, RD; Anne Marie Hunter, PhD, RD, LD, FADA; Nora K. Nyland, PhD, RD, CD; Bonnie A. Spear, PhD, RD. Council on Future Practice Visioning Report and Consensus Agreement for Moving Forward the Continuum of Dietetics Education, Credentialing, and Practice. J Acad Nutr Diet: 1710-28, 2013.

The department began receiving inquiries from prospective graduate students about completing the undergraduate dietetics curriculum while completing a graduate degree in 2004. Students wanted to complete the dietetics curriculum simultaneous with the graduate program for the following reasons: 1) for a change in career path, 2) to provide necessary knowledge needed in the workplace, particularly for those with degrees in the health professions; 3) changes in accreditation requirements and new job positions requiring advanced degrees, and 4) to conduct nutrition related research and continue on to a PhD program. We have had about ~30 inquiries/ year from 2004-2015. Since 2015, this has increased to ~80 per year.

Market/Employer Demand

All indications are that strong training in Nutrition and Dietetics will benefit the graduates in obtaining jobs. Employment demand was evaluated through web-based job searches, the Bureau of Labor Statistics (BLS), and the Virginia Employment Commission (VEC) and is summarized in Tables 1 and 2 below. The tables provide information on the relevant labor category, dietitians and nutritionists, which currently requires a Bachelor's degree. As of 2024, a Master's Degree will be required to be eligible to sit for the Dietetic Nutritionist National Registration exam. As a result, there will be an increased need for Master's level training in Nutrition and Dietetics. The proposed program will directly respond to this increased need by providing graduate level training in Nutrition and Dietetics. Graduates of the proposed program will be eligible to sit for the CDR exam and for job positions as a RDN in various settings.

Table 1. Degree-related employment projections 2016-2026 (U.S. Bureau of Labor Statistics)

Occupational Title	SOC Code	Employment 2016	Projected Employment 2026	Total Change	Percent Change
Dietitians and Nutritionists	29-1031	68,000	77,600	9,600	14.1

Table 2. Degree-related employment projections 2014-2024 (Virginia Employment Commission)

Occupational Title	SOC Code	Employment 2014	Projected Employment 2024	Total Change	Percent Change
Dietitians and Nutritionists	29-1031	1375	1614	239	17.4

Issues of Duplication

There are no issues of duplication with the proposed program. To our knowledge, there are no other programs in the state designed to meet the ACEND FEM standards. There are four programs in the state that have programs with similar CIP codes (51.3101/51.3102). These include Hampton University, Virginia State University, Liberty University, and George Mason University. There is no publically available information on Hampton University's program. Virginia State University's program is a post baccalaureate certificate program in nutrition and dietetics that allows students who have already earned a baccalaureate degree to take dietetics coursework in the ACEND

accredited undergraduate program. Liberty University offers two graduate degree programs: MPH – Nutrition, and MS, Exercise Science – Nutrition. George Mason offers a MS, Nutrition degree. These programs provide nutrition related coursework, however they are not designed or accredited to meet the current ACEND education standards or the FEM and therefore do not contribute to the pathway for students to be eligible to sit for the registration exam for dietitians.

While there are common courses among programs (medical nutrition therapy, nutrition counseling), Virginia Tech's MS Nutrition and Dietetics degree program is specifically designed to meet the ACEND Future Education Model Accreditation Standards for Graduate Degree Programs. This includes incorporation and integration of graduate level course work designed to address current gaps in competencies, with supervised experiential learning activities to achieve the required competencies. This program is also designed to include a compact, streamlined design which takes advantage of year-round course offerings (summer and winter semesters) to allow students to complete the program in 17 months. By designing the program to be completed in this fashion, students are able to take the registration exam for dietitians and enter the workforce in expedited time and with less financial burden. In addition, the program addresses nutrition counseling, disease prevention, genetics, integrative health care, evidence-based practice, coding and reimbursement, and other areas of dietetics practice recognized as having increased importance for the emerging RDN. Finally, this is the only such program in the Southwest Virginia Region. Therefore, the proposed program fills a growing need in the area.

Resource Needs/Savings

Virginia Tech, CALS, and the Department of Human Nutrition, Foods and Exercise have the resources needed to initiate and sustain the proposed MS degree program in Nutrition and Dietetics. The department will have the faculty, staff, equipment, space, and library resources to launch and maintain the proposed program. There are 13 students completing dietetics requirements as part of either the HNFE graduate program (9) or other graduate programs (4) in the university. It is expected that a percentage of these students would have completed the MS Nutrition and Dietetics degree had it been an option. However, this will not have a significant impact on these programs. In addition, some of the courses included in the proposed program will also be open to students in the current Human Nutrition, Foods and Exercise Master of Science and Doctoral degree programs. Finally, the proposed program is a professional degree program with students able to enter the workforce immediately upon graduation provided they pass the registered dietitian credential exam. As such, students will be expected to self-fund their program and therefore the program is expected to be self-sustaining. The proposed program allocates 1.0 FTE of instructional effort for every 7.0 FTE of enrollment. The proposed program will therefore require a total of 2.0 FTE of instructional effort in 2019-2020, rising to 3.5 FTE by the target year 2023-2024.

Five (5) faculty currently in the Department of Human Nutrition, Foods and Exercise will teach in the proposed program. Three faculty will dedicate 50% or more of their teaching load to the proposed degree program. This equates to 0.8 FTE in 2019-2020 and this will be maintained for the target year 2023-2024.

The Dean of the College of Agriculture and Life Sciences has committed resources for three additional faculty members who will be available to teach in the

proposed MS in Nutrition and Dietetics degree program. Two of the faculty members will be hired in 2017-2018. One faculty member will be a tenure track, Associate Professor level position who will serve as the Program Director. This individual will devote 30% of their time to the program. The second faculty member will be a 12-month instructor level position and will serve as the Assistant Director of the program and will devote 100% of their time to the program. The third faculty member will be a 9-month collegiate assistant level position and will devote 60% of their teaching load to the proposed degree program. This equates to 1.9 FTE in 2019-2020 and this will be maintained for the target year 2023-2024.

The Department is also collaborating with the Carilion Clinic (VT will support 40% of the position) in support of a supervised learning experiences site director who will assist the Assistant Director with all internship (HNFE 5754 Internship in Human Nutrition, Foods, and Exercise) content and curriculum. The program will devote .40 FTE for the program as this will be maintained for the target year 2023-2024.

Faculty from the Department of Statistics and the School of Education have agreed to teach required courses in the proposed degree program. It is anticipated that two faculty members (one from each department) will teach a required course as part of the already established curriculum. The program will require 0.20 FTE to initiate the program in 2019-2020 and this will be maintained for the target year. This equates to 0.4 FTE in 2019-2020 and this will be maintained for the target year 2023-2024.

An administrative assistant currently employed by the Department will support the proposed degree program. The program will require 0.50 FTE of classified support to initiate the program and this level of effort will remain constant through the target year 2023-24. Salary for the administrative assistant will be \$20,000 and benefits \$7,000.

No graduate assistants are necessary for the initiation or maintenance of this degree program.

Office furniture is already available for the new hires. In the initial year, equipment will be purchased by the department for the new hires. A computer system (~\$2,000 per computer) will also be provided. The Department will allocate a total of \$4,000 for these purposes.

No new library resources are needed for the initiation or maintenance of this degree program. A library catalog search located all of the top 10 impact journals publishing in Nutrition and Dietetics currently held by the Virginia Tech library.

New resources will be needed to provide telecommunications support for the new hires. Each of the new faculty members will be provided with a telephone system. The Department will allocate \$1,000 to establish telephone service for the new hires.

No new space is needed to initiate and sustain the proposed degree program. Office space is available in the Department of Human Nutrition, Foods and Exercise for the new hires.

No other resources will be required to initiate or maintain this degree program and no new state resources will be required to sustain the proposed program.

RESOURCE	ESTIMATED COST
Faculty	\$458,800
Administrative Staff	\$27,000
Graduate Teaching/ Graduate Research Assistants	\$0

Space	\$0
Library	\$0
Equipment	\$5,000
Other	\$0



VirginiaTech

College of Agriculture and Life Sciences

Department Human Nutrition, Foods and Exercise
Wallace Hall, Room 338 (0430)
295 West Campus Drive
Blacksburg, Virginia 24061
540/231-4672 Fax: 540/231-3916
www.hnfe.vt.edu

December 1, 2017

To: Members of Virginia Tech Governance:

We would like to offer our support for the new degree program, Master of Science in Nutrition and Dietetics. No additional resources are required for this course. The HNFE faculties have unanimously voted in support of this new degree program. The program has received preliminary approval from the Accreditation Council for Education in Nutrition and Dietetics (ACEND), the accrediting agency for the Academy of Nutrition and Dietetics.

Sincerely,

A handwritten signature in black ink, appearing to read 'M W Hulver'.

Matthew W. Hulver, PhD
Department Head, HNFE

Invent the Future



VirginiaTech

College of Liberal Arts
and Human Sciences

Counselor Education Program

1750 Kraft Drive, Suite 2002
Blacksburg, Virginia 24060
(540) 231-7845
www.soe.vt.edu/counseled

November 16, 2017

Dear Colleagues,

As Program Leader of the Counselor Education program in the School of Education, I offer my support for the new MS in Nutrition and Dietetics degree program. I am willing to arrange a section of EDCO 5214: Theories of Counseling and Consultation for students in the new program as needed. I also approve the use of EDCO 5214 as a prerequisite for the course Nutrition Counseling for Behavior Change (HNFE 5344). If there is additional information I can provide in support of the program, please do not hesitate to ask.

Sincerely,

Laura E. Welfare, PhD, LPC, NCC, ACS
Associate Professor and Program Leader
Counselor Education
Virginia Tech
Blacksburg, VA 24061
Mobile: 540-819-7551
welfare@vt.edu

Invent the Future



Ronald D. Fricker, Jr.
Head, Department of Statistics
Hutcheson Hall, room 406-A, Virginia Tech
Blacksburg, Virginia 24061
540-231-7754
rf@vt.edu

July 18, 2017

To whom it may concern:

This letter is written in support of the Department of Human Nutrition, Foods, and Exercise's Master of Science in Nutrition and Dietetics. This new degree will require students to take either Biometry I (STAT 5605) or Statistics in Research I (STAT 5615). We currently have the capacity to support the expected 20 students who would take one of these courses each fall term.

It is important to note that STAT 5615 currently fills to capacity (250 students) every fall, so it will likely be more difficult for students to get into this class, but there is sufficient room in STAT 5605 to support the program. Also, we are now offering STAT 5615 in the summer with plenty of capacity to support these students.

That said, we are excited to be a part of this new educational initiative that promises to produce graduates with skills valuable to the advancement of human health and societal well-being. We offer our support to the program and we look forward to the opportunities for research collaboration between Department of Statistics faculty and the Human Nutrition, Foods, and Exercise faculty.

Sincerely,

A handwritten signature in black ink, appearing to read 'R.D. Fricker, Jr.'.

R.D. Fricker, Jr.
Professor and Head

Invent the Future