Health Sciences

Health Sciences
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http://www.healthsci.jmu.edu/

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Instructor
E. Richardson

Overview
The Department of Health Sciences is home to three graduate programs: M.S. in health sciences with a concentration in either dietetics or nutrition and physical activity; M.O.T. in occupational therapy; and M.P.A.S. in physician assistant studies. The department also offers a health services administration track in the M.B.A. program.

Admission Requirements
Admission requirements for programs in the Department of Health Sciences vary by program. Refer to the specific program for admission criteria and deadlines.

Mission
The graduate programs in health sciences are dedicated to preparing students to become evidence-based critical thinkers in the health sciences. Specifically, these programs build upon the undergraduate health sciences programs by providing a more detailed knowledge base that is fortified by self-directed learning experiences and the development of practical, clinical and/or research skills.
Goals

The specific goals of the graduate programs in health sciences are designed to help students develop their critical thinking abilities while expanding their knowledge in the rapidly changing health-related environments. Specifically, students will be able to:

- critically evaluate the current research in the ever-broadening field of health.
- access current literature in the health fields.
- interpret current health-related research.
- develop basic research skills.
- describe and evaluate various health education models.
- critically evaluate past and present health care administration strategies.

The mission and goals are based, in part, on the Standards for the Preparation of Graduate-Level Health Educators.

In the Master of Science programs, courses must be selected with the approval of the major adviser in accordance with the program requirements. Students electing a major in the health sciences department are expected to have adequate undergraduate preparation in the chosen area of graduate study and satisfactory Graduate Record Examination scores.

Students entering the dietetics or nutrition and physical activity concentrations of the health sciences graduate program who do not possess the required prerequisites must obtain them before beginning the program.

Master of Science Concentrations

Health Sciences: Dietetics Concentration

Dr. Patricia Brevard, Graduate Concentration Coordinator
Phone: (540) 568-6362

A master of science degree in health sciences may be pursued with a concentration in dietetics. The program includes course work in advanced nutrition, topics in foods, professional issues in dietetics, management in dietetics settings, research methods, nutrition and disease, nutrigenomics, and geriatric nutrition. In addition to course work, students must plan, conduct and complete a written report on a research project. The prerequisite for admission to this program is the Registered Dietitian credential.

Dietetics Concentration Degree Requirements

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 522, Statistics for Researchers</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 654, Current Topics in Foods</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 655, Integrated Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 660, Research Methods in Dietetics</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 672, Professional Practice Issues in Dietetics</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one of the following options: 6-7

Directed Research option:

- NUTR 681, Directed Research in Dietetics I (two credits)
- NUTR 682, Directed Research in Dietetics II (two credits)
- NUTR 695, Research Interpretation in Dietetics (one credit)
NUTR 696. Graduate Seminar in Dietetics (one credit)

Thesis option:
NUTR 700. Thesis Research I (three credits)
NUTR 701. Thesis Research II (three credits)
NUTR 695. Research Interpretation in Dietetics (one credit)
NUTR 696. Graduate Seminar in Dietetics (one credit)

Choose 12 hours from the following elective courses: 12
NUTR 545. Exercise and Nutrition
NUTR 555. Theories and Practices of Weight Management
NUTR 650. Nutrition Education and Counseling
NUTR 671. Nutrition in Disease Development, Progression and Prevention
NUTR 673. Advanced Management in Dietetics
NUTR 674. Optimal Nutritional Health for Older Adults
NUTR 675. Nutrigenomics

Health Sciences: Cross Disciplinary Program in Nutrition and Physical Activity

This 33 credit hour master's program permits students to major in health sciences or kinesiology with a concentration in nutrition and physical activity. Students must declare a major in either health sciences or kinesiology with a concentration in nutrition and physical activity. This graduate program has been planned for registered dietitians or persons with an undergraduate degree in dietetics, kinesiology or a related area. This program is designed for the student who has an interest in nutrition and its role in physical activity.

An undergraduate degree with a major in dietetics, kinesiology or a related field is required. Courses in nutrition, exercise physiology, anatomy and physiology are prerequisites for admission to the program. Students should also check the prerequisites listed in the catalog for each course required. Thirty-three hours are required for the degree program, including a thesis or directed research on a selected topic in nutrition and physical activity. The degree program can be completed in as few as two academic years, with a maximum of six academic years. This program does not lead to the RD status recognized by the American Dietetic Association; however, students are encouraged to obtain the RD status by completing the Didactic Program in Dietetics requirements and applying for a dietetic internship.

For a list of DPD requirements, refer to http://www.healthsci.jmu.edu/dietetics/undergraduate.htm; refer to http://www.eatright.org for a list of all dietetic internships available in the United States.

Cross Disciplinary Program in Nutrition and Physical Activity Concentration Degree Requirements
Minimum Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUTR/KIN 555</td>
<td>Theories and Practices of Weight Management</td>
<td>3</td>
</tr>
<tr>
<td>KIN 644</td>
<td>Metabolic and Cardiorespiratory Aspects of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>KIN 645</td>
<td>Muscular, Hormonal and Environmental Aspects of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>KIN 650</td>
<td>Exercise Testing, Prescription and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 660/KIN 655</td>
<td>Research Techniques</td>
<td>3</td>
</tr>
<tr>
<td>MATH 522</td>
<td>Statistics</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 545</td>
<td>Nutrition and Exercise</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 582</td>
<td>Nutrition and Metabolism</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 652</td>
<td>Nutrition Assessment</td>
<td>3</td>
</tr>
</tbody>
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**Choose one of the following options:**

Health Sciences Students must choose option one or option two.
Kinesiology students must choose option three.

**Option One:**
- NUTR 695, Research Interpretation in Dietetics (1 credit)
- NUTR 696, Graduate Seminar in Dietetics (1 credit)
- KIN/NUTR 700, Thesis Research I (3 credits)
- KIN/NUTR 701, Thesis Research II (3 credits)

**Option Two:**
- NUTR 681, Directed Research in Dietetics I (2 credits)
- NUTR 682, Directed Research in Dietetics II (2 credits)
- NUTR 695, Research Interpretation in Dietetics (1 credit)
- NUTR 696, Graduate Seminar in Dietetics (1 credit)

**Option Three:**
- KIN/NUTR 700, Thesis Research I (3 credits)
- KIN/NUTR 701, Thesis Research II (3 credits)

33-35

**Master of Business Administration: Health Services Administration Concentration**

The Department of Health Sciences cooperates with the College of Business Master of Business Administration program to offer a health services administration concentration within the Master of Business Administration program. This program is intended to provide practicing health professionals with the business skills and health systems knowledge necessary for promotion or to take advantage of new opportunities.

This track includes the following four courses:
- HTH 659, Health Care Environment (3 credits)
- HTH 660, Health Economics (3 credits)
- HTH 661, Financial Management of Health Services Organizations (3 credits)
- HTH 669, Health Care Administration (3 credits)
Three of these courses are used to meet Master of Business Administration elective requirements. Students in the health services administration concentration take HTH 661, Financial Management of Health Services Organizations, instead of FIN 655, Advanced Topics in Financial Management.

Students who have not had at least two years of work experience in a health services organization will be required to complete a three-month internship. Application for admission must be made to the College of Business Master of Business Administration program. Applicants must meet the Master of Business Administration prerequisite requirements. Refer to the Master of Business Administration Web site for specific requirements for this concentration.

Course Offerings

Health Sciences

1-3 credits.
An intensive investigation of a major current health problem such as sex education, drug abuse or environmental health.

HTH 510. Human Sexuality.
3 credits.
Components of human sexuality as they relate to the physical, social and emotional health of children, adolescents and adults. Such topics as physical and sexual changes during adolescence, abortions and contraceptives are discussed.

HTH 549. Contemporary Health Issues.
3 credits.
An investigation of concerns in the area of health promotion, including cardiovascular health, fitness, the personal role of health education, drugs and drug abuse, and other selected topics.

HTH 552. Health Behavior: Theory, Research and Practice.
3 credits.
An in-depth analysis of health education strategies employed in altering individual and community health behavior.

HTH 558. Health Planning.
3 credits.
An intensive exploration of resources and techniques employed in planning and evaluating health programs designed to meet the specific health needs of communities and groups.

HTH 645. Practicum in Health Sciences.
1-3 credits.
Selected practicum experiences for students in the various health sciences graduate programs.

HTH 655. Research Techniques.
3 credits.
This course examines: the focus of research, literature review, research design, choices of method of analysis, data collection techniques and the various ways to conclude a research effort. The logic of statistical analysis is used to develop research designs. Prerequisite: One statistics course.

HTH 657. Chronic Diseases.
3 credits.
Survey of common chronic diseases of humanity with emphasis on prevention and early diagnosis. Topics include such diseases as cardiovascular, endocrine, ophthalmic, respiratory and neurological disorders.
3 credits.
This is a survey course examining the U.S. health care system, federal and state health policy, and public and private providers. Comparisons of the U.S. system will be made with other systems in the industrialized world.

HTH 660. Health Economics.
3 credits.
Course explores economic dimensions of the health care delivery system: demand, demand-related human behaviors, competitive markets, economic models for care delivery, regulation and medical insurance. Delivery models of other industrialized nations are considered, as is how the U.S. system may be improved. Prerequisite: Undergraduate microeconomics.

HTH 661. Financial Management of Health Services Organizations.
3 credits.
This course emphasizes financial management in a variety of health care organizations. Activities include the study of patient accounting, third party reimbursement and cost reporting. There will be extensive use of microcomputer spreadsheet methods. Prerequisites: Required: HTH 659; recommended: FIN 645.

HTH 669. Modern Health Care Administration.
3 credits.
Study of health organizations' internal operations through examination of activities in various health agency settings.

HTH 671. School Health Practice.
3 credits.
Analysis of two areas of the school health program (health services and health instruction) with emphasis on planning, implementing and evaluating health services and instruction.

HTH 680. Reading and Research.
3 credits.
Directed reading in designated areas of specialized interest. Investigating, researching and reporting. Course may be repeated for credit, with permission of the department head, when content changes.

HTH 685. Field Work in Health.
3-6 credits.
Practical experience in applying health theory to problems encountered in a professional setting. Specific assignments will be determined by the needs of the student. (Amount of credit will be based on amount of experience acquired. No more than six hours can be counted toward a degree program.)

HTH 695. Directed Research.
3 credits.
This is for research designed to complete the Directed Research Option. The course must be taken twice. Prerequisite: Permission of graduate coordinator.

HTH 698. Comprehensive Continuance.
1 credit.
Continued preparation in anticipation of the comprehensive examination. Course may be repeated as needed.

2 credits.
Continued study, research and writing in the area of thesis concentration. Course may be repeated as needed.
HTH 700. Thesis Research.
6 credits.
This course is graded on a satisfactory/unsatisfactory/incomplete (S/U/I) basis. Prerequisite: HTH 655 or equivalent.

Dietetics

NUTR 545. Nutrition and Exercise.
3 credits.
Addresses the relationship of nutrition and exercise and the effect of dietary intake. Techniques of nutritional assessment and counseling through dietary plans will be investigated. This course is designed especially for professionals who may be employed in physical fitness programs. Prerequisite: NUTR 280 or equivalent.

NUTR/KIN 555. Theories and Practices of Weight Management.
3 credits.
An examination of the physiological, psychological and environmental theories of obesity. Current trends in obesity research are examined. A case study and laboratories are utilized to provide students with practical experience in conducting a weight loss program. Prerequisites: BIO 270, BIO 290, or NUTR 280 or permission of instructor.

NUTR 582. Nutrition and Metabolism.
3 credits.
A study of the nutrients, their roles in intermediary metabolism, the effects of genetic errors in metabolism, nutritional deficiencies and means of assessing nutritional status. Agencies and programs concerned with nutrition and health and current trends in nutrition research are emphasized. The development of an individual nutrition research project, collection and reporting of data is required. Prerequisites: NUTR 280, physiology, biochemistry and statistics.

3 credits.
Review of philosophy and provisions of major nutrition education of current research in the field of dietetics. Techniques of planning, implementing and evaluating programs. Theories and techniques of nutrition counseling. Nutrition education and counseling experience will be provided in a variety of settings. Prerequisite: Admission to M.S. in health sciences program with dietetics concentration, which includes RD status, or permission of the instructor.

NUTR 582. Nutrition Assessment.
3 credits.
Methods of assessing nutritional status of people in clinical and experimental settings. Prerequisite: NUTR 384 or equivalent.

NUTR 584. Current Topics in Foods.
3 credits.
In-depth study of a variety of current topics related to the United States and global food supply, food processing, food regulation, food marketing, and the relationship between foods and disease. Prerequisite: Admission to M.S. in health sciences program with dietetics concentration, which includes RD status, or permission of the instructor.

NUTR 585. Integrated Nutrition.
3 credits.
The biochemical and physiological processes involved in nourishing the body in health and in disease. Prerequisite: Admission to M.S. in health sciences program with dietetics concentration, which includes RD status, or permission of the instructor.
NUTR 660. Research Methods in Dietetics. 
3 credits.
This course emphasizes skills in the initiation, conduct and interpretation of research, particularly that involving social science techniques applied to dietetics and health sciences. Emphasis is given to measurement issues, design, questionnaire development, survey techniques, field research, evaluation, quantitative (using SPSS) and qualitative analysis, and ethical issues. Prerequisite: Undergraduate or graduate-level statistics course.

3 credits.
Pathophysiology of disease will be investigated in this course, emphasizing the role of inflammation in development of major chronic diseases. The impact of nutrients on inflammation and in specific disease states and various nutrients and food components that can be used as preventive measures or treatment modalities will be emphasized. Prerequisite: Admission to M.S. in health sciences program with dietetics concentration, which includes RD status, or permission of the instructor.

NUTR 672. Professional Practice Issues in Dietetics. 
3 credits.
This course emphasizes development of skills needed by Registered Dieticians in leadership positions in the profession, professional associations, administrative dietetics employment positions, and other volunteer or employment professional settings. Topics include communication strategies, developing a strategic approach to professional skills and competencies, grant writing, leadership, public policy, and legislative issues. Prerequisite: Admission to M.S. in health sciences program with dietetics concentration, which includes RD status, or permission of the instructor.

NUTR 673. Advanced Management in Dietetics. 
3 credits.
Management and leadership principles will be investigated with emphasis on skills needed in food service, dietetics or nutrition-related services. Current research used in policy making will be reviewed. Focus areas include project, financial, human resource, and outcomes management; quality assurance; marketing strategies; employment law; regulation of food and healthcare; entrepreneurship; and adult education and training. Prerequisite: Admission to M.S. in health sciences program with dietetics concentration, which includes RD status, or permission of the instructor.

NUTR 674. Optimal Nutritional Health For Older Adults. 
3 credits.
Students will investigate physiological changes associated with normal aging, the impact of those changes on nutrition status, and the impact of nutrition on the longevity and quality of life. Evidence-based treatment modalities to minimize the effects of physical, social, economic and mobility changes on nutritional health will be developed. Prerequisite: Admission to M.S. in health sciences program with dietetics concentration, which includes RD status, or permission of the instructor.

NUTR 675. Nutrigenomics. 
3 credits.
The role of food choice and physical activity on gene expression and the impact on health and wellness of individuals will be explored. Also, the role of genetics and nutrition therapy in the prevention and development of chronic diseases will be examined. Prerequisite: Admission to M.S. in health sciences program with dietetics concentration, which includes RD status, or permission of the instructor.

NUTR 681. Directed Research in Dietetics I. 
2 credits.
Advanced research in dietetics directed by a graduate advisory committee. Course will be graded on an S/U basis. Prerequisites: Unconditional admission status in the graduate program and NUTR 660.
NUTR 682. Directed Research in Dietetics II.
2 credits.
Advanced research in dietetics research directed by a graduate advisory committee. Course will be graded on an S/U basis. Prerequisite: NUTR 681.

NUTR 695. Research Interpretation in Dietetics.
1 credit.
Critical evaluation and interpretation of current research in the field of dietetics. Critiques of research articles will be conducted by the class, with discussion regarding each study. Each component of the research process will be evaluated to assist students with their own research reporting. Prerequisite: MATH 220.

NUTR 696. Graduate Seminar in Dietetics.
1 credit.
A professional seminar will be presented to all graduate students and faculty, with an oral and graphic presentation of results obtained from research completed in NUTR 682 or NUTR 701. The required presentations must be given during the semester this course is taken. Presentations as both a seminar and a poster session are required. Prerequisites: NUTR 695, NUTR 660, NUTR 681, MATH 522; prerequisite or co-requisite: NUTR 682 or NUTR 701.

NUTR 697. Directed Research Continuance.
1 credit.
Continued study, research and writing in the area of directed research project. Course may be repeated as needed, but does not count toward degree requirements. Course will be graded on an S/U basis.