The vision of Rocky Mountain University of Health Professions (RMUoHP) is to become widely recognized for excellence in healthcare education. The Doctor of Science (DSc) in Health Science with concentration areas in Athletic Training, Clinical Electrophysiology, Health Promotion and Wellness, Human & Sport Performance, and Neurologic Rehabilitation prepare and support students to complete an academic terminal doctoral degree which can provide opportunities for employment in institutions of higher education, healthcare and research clinics, hospital settings and other healthcare venues. The DSc in Health Sciences prepares stewards of healthcare disciplines.

Each concentration is committed to the development of lifelong scholars who can conduct, evaluate, publish, present and integrate research findings into their daily academic agenda and/or clinical practice; act in leadership roles in their discipline and community; provide the highest level of intervention to their patients/clients; and participate in undergraduate and graduate education environments to effectively teach the next generation of evidence-based clinicians, scholars and educators in academic and healthcare programs.

The program is designed for practitioners and educators to continue professional work obligations during the program while attending eight semesters of didactic work followed by qualifying exams and completion of a dissertation. The dissertation emphasizes the application of scientific principles related to the application of evaluation, intervention and research of clinically related issues of inquiry seen in healthcare and education. Dissertation committee members are known experts in the field from across the United States with members of the RMUoHP faculty providing guidance and support.
Degree Objectives
The DSc in Health Science Program is committed to the development of the healthcare professional who can:

- Conduct and disseminate evidence-based sound, ethical, cost-effective scholarship;
- Make significant and relevant contributions to the current body of scientific knowledge in the discipline;
- Develop knowledge expertise in the area of dissertation interest;
- Develop and deliver instructional designs, strategies and curriculum based upon best practices in the scholarship of teaching and learning;
- Influence ethical and legal management of healthcare through education of providers, consumers, and society at large;
- Enhance leadership abilities, including competence in the roles of clinician, researcher, educator, and leader;
- Describe and distinguish the various theories associated with the concentration area and develop advanced evidence-based practice knowledge.

Curriculum
Core Courses: All students are required to complete a set of core research courses including evidence-based practice, quantitative and qualitative inquiry, biostatistics, epidemiology as well as required theory courses. These courses provide the foundation for the dissertation phase and research process.

Concentration Courses: Students are required to select a concentration area before enrolling in the DSc program. Concentration courses provide further knowledge, skills and abilities essential to advanced clinical practice and support research areas students often pursue.

Concentrations:
- Athletic Training
- Clinical Electrophysiology
- Health Promotion & Wellness
- Human & Sport Performance
- Neurologic Rehabilitation

Admission Requirements
1. A master’s or professional practice degree beyond the baccalaureate from an accredited college or university.
2. Grade point average of 3.2 (on a 4.0 scale) on all work completed during the Master’s or professional practice degree (i.e., DPT, PA).
3. Possess writing and oral communication skills sufficient to conduct and deliver the results of meaningful research. Must submit an essay that includes current personal, intellectual and professional interests and why the student is applying to the degree program.
4. Submit a current Curriculum Vitae.
5. Possess information technology skills sufficient to effectively participate in RMUoHP’s DSc program and effectively conduct research.
6. Have successfully completed, with a grade of B- or better, at least one course in Research Methods or Statistics at the Master’s or higher level.
7. Prefer a minimum of one (1) year in clinical practice.
*Exceptions to these criteria will be considered on a case-by-case basis with consultation of the concentration director.

**Concentration – Health Promotion & Wellness**

The Health Promotion and Wellness concentration includes a multidisciplinary focus. The curriculum is designed to provide the student a multidimensional exploration of wellness, including the physical, psychological, spiritual, social, and emotional aspects leading to the ability to conduct scholarly creative inquiry advancing the body of knowledge in health promotion and wellness. The curriculum includes coursework aimed at increasing the student’s abilities in the assessment and implementation of sound scientific principles in the promotion of health and wellness. The central element of the program is the completion of a dissertation that incorporates clinical research and advances knowledge in the area of concentration. The core courses of biostatistics, research methods, scientific/professional and proposal writing are designed to expand scientific inquiry and advance knowledge of the professorate.

The post-professional program in the science of health promotion and wellness offers expanded study in the areas of theories of behavior change, principles of health promotion, nutrition, population health and ecological issues. The curriculum also includes coursework in risk factors and risk reduction strategies, motivational coaching and resilience, integrative therapies, controversial topics in health promotion.

The program is designed to be successfully completed with minimal lifestyle disruption and will accommodate a variety of professional and personal situations (full-time working professionals, full-time parents, nonworking professionals, etc.). During the program, students will attend eight semesters. Engagement in readings, assignments, threaded discussions, etc., as well as attendance on campus for face-to-face interaction with peers and mentors in a traditional classroom setting (except for two online only semesters; see on-site dates listed in calendar below), is required in each semester. The number of on-site days is course dependent. Courses noted “Online” have no on-site days allotted. For all courses, students complete coursework throughout the entire semester. A written qualifying examination, a practical comprehensive examination, and dissertation are required.

The Health Promotion and Wellness Concentration is committed to the development of the healthcare professional who can:

- Access, evaluate, and integrate best evidence in health promotion and wellness programs, design guidelines and to provide current best practice to positively influence the health and quality of life of all people;
- Contribute to the evidence in health promotion and wellness by designing, conducting, and disseminating original research or case studies;

Content and dates are subject to change.
- Develop learner-centered instruction and instructional delivery methods based upon best practices of the scholarship of teaching and learning.
- Provide leadership and service in healthcare research, academia, and community at the local, regional, national and/or international levels:
- Become a leader in the integration of health promotion and wellness practice within traditional health disciplines.

### Program Module Calendar

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<th>Semester 1 Sum 2016</th>
<th>Start Date</th>
<th>On-site Dates</th>
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<td>May 2, 2016</td>
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<td>August 19, 2016</td>
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<td>August 29, 2016</td>
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<td>Semester 4 Sum 2017</td>
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<td>Semester 7 Sum 2018</td>
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| Semester 9 Winter 2019               | Dissertation | CC 833A          |            |
| Semester 10 Summer 2019              |             | CC 833B          |            |

**Residency**

Student must register for Residency Credit (CC 877A, CC 877B, etc.) each semester until dissertation is completed & minimum credit requirement for program is attained.

*Eight-year deadline from start of program is May 2, 2024*
**Semester 1**

(7 credits)

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**HS 710    Evidence-based Practice**

(3 credits; 2 days On-site)

This course is designed to prepare healthcare professionals with the knowledge, skills and abilities necessary to make independent judgments about the validity of clinical research and to implement evidence-based clinical practice in their careers. This course will focus on the concepts of evidence-based practice with emphasis on forming answerable clinical questions and effective literature search strategies. The evaluative approach to appraising the research literature will prepare the students to judge the evidence on: 1) the accuracy and validity of diagnostic tests and the application of important diagnostic tests in the care of a specific patient; 2) the effectiveness of clinical interventions; 3) the natural history of health-related conditions; 4) risk of harm from select preventative and therapeutic interventions. Based on presentation of case scenarios, students will be required to formulate the key question(s), rapidly search medical and health-related databases, appraise the evidence with a critical analysis and describe application of the evidence in a clinical context. Instructor: Jennifer McKeon, PhD, ATC, CSCS

**HS 712    Research Methods:**

**A Quantitative Approach**

(3 credits; 2 days On-site)

This course provides an introduction to general research principles and research ethics. The student will be introduced to the following topics in the research process: question formulation, principles of measurement, basic design and methodological features, issues of reliability and validity, and fundamentals of conducting a literature review. A quantitative article critique will be conducted in class and outside of class. The class format will include lecture, small group discussion, and practice. Instructor: Shane Koppenhaver, PT, PhD, OCS, FAAOMPT

**HS 714    Scientific/Professional Writing**

(1 credit; Online)

This pass/fail course reviews PubMed, Index Medicus, other search methodologies, American Medical Association Manual of Style editorial format, the composition of a scientific/professional manuscript, and the style of Scientific/professional writing, its construction and formats. Instructor: Lori Thein Brody, PhD, PT, SCS, ATC
Semester 2
(5 credits)

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HS 760 Instructional Technology (2 credits; Online)
This course identifies, explores, and practices the use of instructional technology in the design and delivery of online, blended, and traditional classroom learning environments. Best practices for online and blended course design and strategies for online instructional delivery will be discussed. Current instructional technologies utilized in the 21st century higher education classroom will be systematically design, created, shared, and reviewed. Instructor: Jan Reese, MS

WE 622 Introduction to Health Promotion and Wellness & Risk Reduction Strategies (3 credits; Online)
This course will provide an overview of the concepts of health promotion, health education, public health, primary prevention, lifestyle, behavior, and wellness and, based on evidence, their relationships to each other and to secondary and tertiary care. The historical relevance of and evidence for focusing on individual and social determinants of health will be explored and an ecological model combining both approaches will be introduced. The evidence related to risk factors for disease due to lifestyle choices will be reviewed and discussed in this course, including but not limited to smoking, nutritional choices, obesity, inactivity, diabetes, social support, and stress. Evidence for the prevention of diseases through the adoption of healthy behaviors will also be discussed. Strategies for adopting positive health-related behaviors will be explored. Class format will include lecture, small group activities and projects, and a personal wellness philosophy presentation. Instructor: Andrea Gorman, PhD, RD, LPC

Semester 3
(6 credits)

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HS 720 Survey of Qualitative Research (3 credits; 2 days On-site)
This course introduces the student to qualitative research methods and their applications to problems and phenomena in healthcare. Emphasis is placed on the appropriate use and differences of qualitative methods, their philosophical underpinnings, and application to clinical issues. Instructor: Angela R. Merlo, PT, DPT, PhD

HS 722 Biostatistics 1 (3 credits; 2 days On-site)
The purpose of this course is to introduce the student to biostatistics, the science of evaluating information in a biological setting. Such topics as simple descriptive statistics, basic probability concepts, probability distributions (normal & binomial),
sampling distributions, and an introduction to t-distributions will be covered. Instructor: Tom Cappaert, PhD, ATC, CSCS

Semester 4
(6 credits)

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COURSES FOR STUDENT SELECTION: Students must submit course selection form to registrar prior to the start of Semester 4. Choose one of the following two courses:

HS 732 Biostatistics 2 (3 credits; Online)
The purpose of this course is to build upon the topics introduced in Biostatistics 1. This course will cover such topics as interval estimation, confidence intervals, hypothesis tests, and one and two-sample t-tests. Prerequisite: HS 722. Instructor: Tom Cappaert, PhD, ATC, CSCS

OR

HS 734 Qualitative Research 2 (3 credits; Online)
This course is the second in a two-course sequence on qualitative research methods that extends and elaborates on the topics covered in HS 720. Major approaches used in conducting qualitative research and the application of these methods to problems and phenomena in healthcare will be examined. The emphasis of the course is on the collection, management, analysis, and interpretation of qualitative data. Exploration and application of topics such as sampling, interviewing and observation techniques, data analysis methods, and reporting of qualitative research will be addressed. Evaluation and critique of research studies utilizing qualitative methods will also be examined. Prerequisite: HS 720. Instructor: Angela R. Merlo, PT, DPT, PhD

WE 704 Nutrition (3 credits; Online)
This course is designed to survey current nutrition issues as they relate to humans across the lifespan such as: food policy, industry trends, and resources for the non-Dietetic health practitioner to evaluate claims, research and evidence-based guidelines for nutrition, nutrigenomics, functional foods and supplements. Effective methods of utilizing nutrition screening and assessment protocols will be addressed. Class format will include lecture, personal diet analysis, small group work, forum posts and discussions. Instructor: Andrea Gorman, PhD, RD, LPC

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Semester 5
(9 credits)

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**HS 730 Epidemiologic Methods**  (3 credits; 2 days On-site)
This course will introduce the student to important epidemiological methodology/concepts commonly used in evidence-based practice/medicine. The course will focus on the common observational designs, and common measures of disease frequency, risk association, and validity of diagnostic tests. The use and construction of receiver operating curves will be discussed. The course will also include an introduction into logistic regression and survival analysis methods in how they apply to disease outcomes/disorders. Students will conduct and apply basic epidemiological concepts using statistical software, and learn how to design and develop. The student will be provided with information to aid in data collection and management. *Prerequisite: HS 710.* Instructor: Jason Brummitt, PT, PhD, ATC, CSCS

**HS 752 Curriculum Development**  (2 credits; Online)
This course examines various classical and modern curriculum theorists as they apply curriculum development. Emphasis is placed on congruence between institutional mission, philosophy, and goals; professional standards; and needs and expectations of a program’s communities of interest. Students design a curriculum to meet the needs of a stated role and setting. Instructor: Kristen Johnson, EdD, PT

**WE 706.2 Controversy in HPW**  (3 credits; 1 day On-site)
Students will research a current topic of controversy or debate within health promotion and wellness field and write a paper on the issue. Topics may be a clinical question, policy or professional issue and need to address the concerns of all stakeholders. Instructor: Teresa Araas, PhD, CHES, CYT-700, RYT-500

Semester 6
(8 credits)

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**HS 740 Teaching and Learning Theory**  (3 credits; 2 days On-site)
This course incorporates a learner centered approach to course development and instructional delivery based on the best evidence of how people learn. Students will demonstrate both traditional and innovative instructional techniques and strategies for teaching in didactic and clinical settings based upon the evidence-base of best teaching practices. Instructor: Malissa Martin, EdD, ATC

Content and dates are subject to change.
HS 800  Dissertation Prep I  (2 credits; 1 day On-site)
The conduct of scientific inquiry requires careful planning and forethought to assure the eventual implementation of a study will successfully result in interpretable and meaningful measurements and that valid conclusions may be drawn. This course will provide students with the necessary background and experience to formulate a clearly delineated hypothesis/research question-driven dissertation prospectus that can be used to convince funding agencies and/or doctoral committees to support the study. Emphasis will be placed on developing a clear background, scientific/clinical rationale, and hypothesis/research question along with the start of a methods section and strategies to form a dissertation committee. In addition, this course will provide key information about the responsible conduct of research, the informed consent process, and the Institutional Review Board process so the student will be able to design a safe and ethical environment for their volunteer subjects. Instructor: Brent Alvar, PhD, CSCS*D, RSCC*D, FNSCA, FACSM

WE 700  Theories of Behavior Change  (3 credits; 2 days On-site)
This course is designed to expose the student to the fundamental theories driving research and practice in health education, and to provide an opportunity for the student to put theory into practice based on current evidence. A variety of theories will be reviewed and the opportunity for the student to become familiar with the literature applying the theories provided. Working in a group, students will design a health education program based on a given theory and supported by evidence and present the findings to the class. Class format will include lecture and group activities. Instructor: Janet Bezner, PT, PhD

Semester 7  
(8 credits)

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HS 727  Survey Mixed Methods Research  (3 credits; 1 day onsite)
This course will familiarize students with theory and application of survey research design and methods with integration of a mixed methods approach. Students will learn the principles and practices of conducting survey research including: accounting for and reducing sources of error, designing appropriate sampling strategies, assessing the reliability and validity of self-constructed questionnaires and interview protocols, administering surveys through various means and analyzing and reporting results of survey research. How to integrate qualitative inquiry with survey research to develop and conduct a mixed method study including writing results will be emphasized. Instructor: TBA

WE 610  Population Health Issues  (3 credits; 2 days On-site)
In this course the health issues of specific populations will be discussed, including gender and age specific populations, as well as one or two additional populations driven by class preferences. Additional populations may include shift workers, various ethnic
groups, or religious groups. Health and well-being issues specific to each population selected will be discussed and explored and evidence-based strategies developed to address the issues for each population. The ecological model of health promotion will be explored. Class format will include lecture and small group activities. Instructor: Rick Nauert, PT, MSHF, MSHA, PhD

WE 710  Theories and Application of Wellness Coaching  
(3 credits; Online)
This course contains content associated with achieving professional certification for wellness coaching. Health behavior change strategies are emphasized within the context of the health coaching theory, coaching relationship skills, well-being assessment, and goal setting. Coaching theories include motivational interviewing, appreciative inquiry, and positive psychology. Along with the health and wellness coaching education, emphasis will be placed on developing practical coaching skills one-on-one with coaching partners or clients. Instructor: TBD

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HS 810  Dissertation Prep II  
(1 credit; 1 day On-site)
This course is a continuation of HS800 Dissertation Prep I where students will finalize their written prospectus. Students will continue securing dissertation committee commitments and be prepared to defend a mock prospectus defense via presentation while on campus. Students prepare for the Institutional Review Board process by completing the CITI Human Subjects Research course, becoming familiar with the online submission platform, and drafting informed consent documents. Instructors: Brent Alvar, PhD, CSCS*D, RSCC*D, FNSCA, FACSM; Cherie Pettitt, EdD, EP-C, CSCS, PAPHS, CWC, EIM

WE 717  Integrative Therapies in Health Promotion  
(3 credits; 1 day On-site)
The use of complementary and alternative therapies in the context of health promotion will be explored in this course using an evidence-based approach. Topics introduced may include energy medicine (Reiki, Qi gong, healing touch), manipulative and body-based practices (massage therapy, reflexology, Rolfing, Trager bodywork, Alexander technique, Feldenkrais), or mind-body approaches (relaxation, hypnosis, visual imagery, meditation, yoga, biofeedback, tai chi, prayer). Class format includes lecture, small group work, and hands on activities. Instructor: Teresa Araas, PhD, CHES, CYT-300, RYT-200

Content and dates are subject to change.
Dissertation Phase
(12-credit minimum)

Each doctoral student will be required to complete a dissertation that is evidence-based and involves applied research of experimental, nonexperimental, or descriptive designs. Examples of dissertations include: small randomized control trials; single-case/subject designs, quasi-experimental designs, qualitative methods, survey research, epidemiological designs (cross-sectional, cohort or case-control) normative research, and correlational designs.

In 10th semester students will complete comprehensive exams

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<th>Course Code</th>
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<td>Doctoral Dissertation 1 – Semester 9</td>
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<tr>
<td>CC 833B</td>
<td>Doctoral Dissertation 2 – Semester 10</td>
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*Semesters of Dissertation Residency Credit (CC 877A, CC 877B, etc.) as needed*