# HUMAN FUNCTION AND REHABILITATION (HFR)

## Explanation of Course Numbers

- Courses in the 1000s are primarily introductory undergraduate courses
- Those in the 2000s to 4000s are upper-level undergraduate courses that can also be taken for graduate credit with permission and additional work assigned
- Those in the 6000s and 8000s are for master's, doctoral, and professional-level students
- The 6000s are open to advanced undergraduate students with approval of the instructor and the dean or advising office

**HFR 1105. Survey of Human Anatomy and Physiology for Health and Rehabilitation. 2 Credits.**
Survey of human anatomy and physiology with an emphasis on the movement systems. First aid and Basic Life Support (BLS) training included. Prerequisites: HSCI 1101, HSCI 1102 and HSCI 1103.

**HFR 1107. Illness and Injury for Health and Rehabilitation. 2 Credits.**
Survey of injury and illness with an emphasis on dysfunction impacting the movement systems; basic concepts of biomechanics for health and rehabilitation professionals. Prerequisite: HFR 1105.

**HFR 1109. Exercise Science for Health and Rehabilitation. 2 Credits.**
Basic concepts of exercise physiology; intervention, prevention, and assessment of injuries and conditions with special emphasis on musculoskeletal systems. Prerequisite: HFR 1107.

**HFR 1111. Cases in Health and Rehabilitation. 2 Credits.**
Continuation of HFR 1109. Topics and cases related to prevention, treatment, and management of injuries and conditions; discussion of career preparation for rehabilitation and exercise science careers. Prerequisite: HFR 1109.

**HFR 3125. Introduction to Biomechanics. 4 Credits.**
Fundamentals of kinematics and kinetics related to human movement. Lecture and lab activities are designed to apply linear, angular, and fluid mechanics to the concepts of gross movement, gait, exercise, functional activities, and sports. Prerequisites: college algebra and 4 credits in basic anatomy.

**HFR 3150. Human Motor Performance Throughout The Life Cycle. 3 Credits.**
Introduction to the effect of motor learning and control on human performance across the life span (children, adults, seniors). Analysis of simple vs. complex movements and performance-related gender differences. Prerequisites: HFR 3125, HSCI 3502, and HSCI 4101.

**HFR 3151. Assessing and Coaching Human Motor Performance. 3 Credits.**
Analysis of motor human performance in light of diverse contexts, ranging from motor performance in professional sports teams to motor performance in pathological conditions. Prerequisites: HFR 3150.

**HFR 4196. Service Learning Project. 3 Credits.**
Service learning placement designed to advance understanding of well-being and human performance topics. Prerequisites: HSCI 1101, HSCI 2105, HSCI 2050, and HSCI 4107.

**HFR 8101. Interprofessional Collaboration in Practice. 3 Credits.**
Core competencies and skills needed to participate effectively in team-based care for patients and populations. Emphasis on communication and flexible leadership strategies and the impact of interprofessional practice on health delivery practices and outcomes. Restricted to SMHS students.

**HFR 8102. Health Professions Practicum I. 3 Credits.**
Supervised integration and implementation of educational or clinical health professional leadership in the learner's practice environment. Restricted to Students in the Doctor of Health Sciences program. Prerequisites: HFR 8107.

**HFR 8103. Health Professions Practicum II. 3 Credits.**
Supervised integration and implementation of educational or clinical health professional leadership in the student's practice environment. Restricted to students in the doctor of health sciences program. Prerequisite: HFR 8102.

**HFR 8107. Program Theory and Health Innovations. 3 Credits.**
Program theory as the basis for designing health and educational innovations that can be tested using scientific methods, replicated in practice, and used to inform policy. Restricted to students in the doctor of health sciences program. Same As: THS 8107.

**HFR 8116. Academic and Clinical Leadership in the Health Professions. 3 Credits.**
Skills needed to serve as a clinical or academic leader in the health professions. Students learn how to think strategically and align goals and resources to prepare health care professionals to serve as effective providers in evolving contexts. Restricted to SMHS students.

**HFR 8123. Qualitative Methods for the Health Professions. 3 Credits.**
Introduction to qualitative methods used in the generation and analysis of data relevant to health professionals. Prerequisites: HFR 8270 or HSCI 6270 or the advisor's approval. Credit cannot be earned for this course and THS 8123.

**HFR 8127. Systematic Reviews in Health Care Practice and Education. 3 Credits.**
Students to refine their skills in developing a systematic review of the literature related to health care practice and education. Prerequisites: HFR 8270. Credit cannot be earned for this course and THS 8127.

**HFR 8203. Bioethical Implications of Health Research. 3 Credits.**
Ethics theories and bioethics principles in planning, conduct, and dissemination of scientific studies. Scientific and academic integrity, human participant protection, conflicts of interest, ownership of data, whistleblowing, and dispute resolution. Restricted to students in the doctor of health sciences program. Prerequisites: HFR 8270 and HFR 8271. Credit cannot be earned for this course and THS 8203.

**HFR 8212. Teaching Strategies in the Health Professions. 3 Credits.**
Application of teaching and learning principles in the delivery of education in health professions; practices grounded in andragogy, contributing to curriculum program development, and the enhancement of teaching and assessment skills. Restricted to SMHS students. Recommended background: Experience in health care or practice as a health care professional. Same As: HSCI 8212.

**HFR 8213. Curriculum Development in the Health Professions. 3 Credits.**
Curriculum development and assessment skills in medical and health science settings. Restricted to SMHS students. Recommended background: experience in health care or practice as a health care professional. Same As: HSCI 8213.

**HFR 8214. Assessment in Health Profession Education. 3 Credits.**
Skills needed to effectively assess individual achievement of required clinical competencies and implement a comprehensive assessment of course and program goals. Prerequisites: HFR 8212 and HFR 8213.

**HFR 8215. Technology and Education in the Health Professions. 3 Credits.**
Students design, develop, implement and assess technology-based education approaches for the health profession. Prerequisites: HFR 8212 and HFR 8213.

**HFR 8225. Applied Research Design and Analysis. 3 Credits.**
Students develop an advanced understanding of research design, methods, and analyses to answer a range of questions important to health care practice and education. Prerequisites: HFR 8270 and HFR 8271.

**HFR 8227. Survey Methods for Health Professionals. 3 Credits.**
Focus on the theory and practices behind survey research, including the design and application of survey methods in health profession education and research. Prerequisites: students in good standing in the doctor of health sciences program or with the permission of the instructor.

**HFR 8270. Research Methods in the Health Professions I. 3 Credits.**
Students design research and study methods to address gaps in the body of health science knowledge. Restricted to students in the doctor of health sciences program.

**HFR 8271. Research Methods in the Health Professions II. 3 Credits.**
Continuation of HFR 8270. Students are prepared to manage data and conduct quantitative analyses to test hypotheses and support decision making. Restricted to students in the doctor of health sciences program. Prerequisite: HFR 8270.

**HFR 8272. Mixed Methods in Translational Health Sciences. 3 Credits.**
Introduction to mixed methods as a legitimate design tradition, with a unique set of procedures for data collection, analysis, and strategies to assure rigor and accuracy. Students design a study to address a translational research question.

**HFR 8313. Knowledge Translation in Health Care. 3 Credits.**
Examination of the emerging field of knowledge translation, which integrates knowledge across the domains of translational research, implementation and dissemination science, and collaboration and team science within the context of current health practice and legislation.

**HFR 8314. Health Care Research. 3 Credits.**
Skills needed for planning and implementation of healthcare research within clinical institutions. Institutions and regulatory requirements for healthcare research, including those involving human subjects. Prerequisites: HFR 8270 and HFR 8271.

**HFR 8315. Healthcare Simulation in Education and Practice. 3 Credits.**
Overview of simulation methodology and best practices in healthcare simulation education, training, and quality assurance.#Designed for educators in healthcare to use simulation to enhance individual and team performance.

**HFR 8996. Seminar I. 3 Credits.**
First in a three-course series of scholarly inquiry. May be repeated for credit. Restricted to students in the doctor of health sciences program. Prerequisites: HFR 8270 and HFR 8271.

**HFR 8997. Seminar II. 3 Credits.**
Second in a three-course series of scholarly inquiry. May be repeated for credit. Restricted to students in the doctor of health sciences program. Prerequisite: HFR 8996.

**HFR 8998. Seminar III. 3 Credits.**
Third in a three-course series of scholarly inquiry. May be repeated for credit. Restricted to students in the doctor of health sciences program. Prerequisite: HFR 8997.

**HFR 8999. Directed Study. 1 Credit.**
Students in their final phase of research in the doctor of health sciences program work with assigned research advisors to complete all data management, interpretation, and dissemination expectations. Restricted to students completing the final (seminar) phase of the DHS program. Prerequisites: HFR 8996 and HFR 8997.