MSRC courses-
Effective 2020- Draft
Course Descriptions by Domain

The following courses represent the new curriculum that will be effective in 2020. This represent a total of 45 units (25 core and 20 elective in the following areas: Leadership and management, Education, Research and Statistics, Sleep, and Advanced Practicum).

Core Respiratory Courses: 25 units

RSTH 550 Advanced Procedures in Cardiopulmonary Science (2)
The study and practice of invasive and noninvasive procedures and associated equipment such as the management of: artificial airways, fiberoptic bronchoscopy, thoracentesis, chest tubes, hyperbaric therapy, arterial blood gas sampling, line placements, ACLS procedures, medications, IV's, related to the critical care patient. Emphasis on the application to patient situations, assessment of care, and principles of equipment use above that of the entry level respiratory care practitioner.

RSTH 541 Advanced Concepts in Critical Care (2)
Advanced studies of general medicine, cardiopulmonary and critical care topics as they relate to cardiopulmonary science are explored. Concepts of physical principles and molecular mechanisms associated with phenotypic changes in compliance, resistance, etc., upon implementation of positive pressure ventilation (PPV) are discussed as well as benefits and limitations of techniques offered by advanced, novel modes of ventilation in regard to reduced physiological insult upon PPV. The course will expand on current understanding of the typical respiratory care practitioner to encourage research questions, data interpretation and revision of current protocols and modalities.

RSTH 560 Advanced Cardiopulmonary Assessment, Diagnostics, and Monitoring (2)
An integrated approach to general medicine, cardiopulmonary assessment, diagnostics, and monitoring to include: theory, management, practice, and application to the cardiopulmonary patient. This expands beyond the pulmonary system to include total system assessment, interpretation of diagnostics and implementation of planning geared toward improved intensive cardiopulmonary care. The course will expand on current understanding of the typical respiratory care practitioner to encourage research questions, data interpretation and revision of current protocols and modalities.

RSTH 571 Advanced Pathophysiology of Cardiopulmonary Diseases (3)
A case study approach of the pathophysiology, clinical signs and symptoms, diagnosis, management, practice, and prognosis of acute and chronic pulmonary and cardiac diseases, with an emphasis on respiratory care and co-morbidities. A study of cardiopulmonary function as it relates to the understanding of the pathophysiology of disease states.

RSTH 580 Research Concept in Respiratory Care Sciences (2)

The application of research specific to respiratory care science through the evaluation and comparison of relevant literature to clinical practice.

RSTH 591 Capstone Project in Respiratory Care I (2)

The graduate student will address and present a substantial issue related to their professional area of interest. Capstone I will emphasize the design, literature review and needs assessment of their project, and understanding of the IRB approval process.

RSTH 592 Capstone Project in Respiratory Care II (2)

As a continuation of the Capstone Project the graduate student will implement approved research plan and begin data accumulation and interpretation. Progress will be reported in writing and through oral presentation to allow continued evaluation and modification of the research process as necessary.

RSTH 593 Capstone Project in Respiratory Care III (2)

This is a continuation of RSTH 592. The graduate student will present their findings of the total project with emphases of the data collection, implementation, and evaluation of their project. MSRC faculty and students will participate in discussion of need for revision or further validation studies.

Capstone courses will be RSTH 594 with a total of 6 units to complete as an independent study.

Mandatory courses by LLU

RELE 524 Bioethics and Society (3 units)

Explores—from Christian and philosophical perspectives—issues confronting both society and patients. Use case studies to illustrate such themes as health disparities, AIDS policy, end-of-life care, and organ transplantation.

AHCJ 519 Graduate Wholeness Portfolio (1) Students develop a portfolio that demonstrates the graduate student's progression toward the student learning outcomes set by Loma Linda University—including wholeness, Christ-centered values, commitment to discovery and lifelong learning, effective communication, embracing and serving a diverse world, and collaboration.

Student will select a total of 20 units from the following electives/courses. *Note: Course description/s might change.

Elective Domain I: Research and Statistics:

AHCJ 571 Statistics and Research for Health Professionals I (3)

Introduces the scientific method in health science research. Focuses on the major steps of the research process: problem identification, literature review, conceptual framework, identification of variables, statement of hypothesis, experimental design, and analysis and presentation of data. Includes critical evaluation of research literature. Applies the research process to problems in related specific allied health fields. Develops a research proposal. Pilot tests a research proposal. Tests procedures and data forms. Implements the research proposal in a practice setting.

AHCJ 572 Statistics and Research for Health Professionals II (3)
Computer data analysis and preparation of a research report. Student prepares a poster appropriate for a professional meeting. Graphics, tables, and abstracts.

AHRM 605. Critical Analysis of Scientific Literature. 3 Units.

A variable unit course that evaluates scientific literature, including critical evaluation of the rationale for the study; population inclusion/exclusion criteria; sampling and randomization techniques; sample size; appropriateness of the research design; choice of the data analysis; structure and content of tables and graphs; interpretation of statistical results; and applications to practice. Students evaluate research articles by answering questions posed by the instructor in a Web discussion board and virtual classroom. Students submit weekly evaluation papers for the articles discussed. Additional evaluation time required for 3 units of credit.

HPRO 589. Qualitative Research Methods. 3 Units.
Applies qualitative methods to instrument design, sampling, and data collection. Focuses on public health issues, ethics, and theory-building. Supervised needs assessment in a selected community.

AHRM 595. Research and Statistics Concepts and Methods: Intermediate. 3 Units.
An in-depth study of research designs, including completely randomized designs, randomized block designs, and statistical tests--such as ANOVA (one-way, repeated measures, factorial)--used to analyze data. Introduces multiple linear regression and correlation, as well as model-building techniques. Interprets multivariate analysis computer output and hands-on statistical computer experience. Introduces nonparametric statistical tests and their appropriate use. Measures and analyzes data for validity and reliability studies. Evaluates research literature that uses multivariate analysis for data analysis.

AHRM 581. Research and Statistics I. 3 Units.
In-depth study of research designs: their advantages and disadvantages, including pretest/posttest designs; posttest-only, control group designs; time series designs; factorial designs; randomized block and repeated-measures designs; and incomplete block designs. Introduces clinical trials, sequential research designs; and single case, experimental designs. Measures and analyzes validity and reliability. Survey-instruments(s) design. Power calculations for choosing appropriate sample sizes.

AHRM 582. Research and Statistics II. 3 Units.
Analyzes data using one-way ANOVA with multiple comparisons, factorial ANOVA designs, randomized complete and incomplete block designs, and repeated measures. Introduces multiple correlation and regression and model building using multiple regression techniques. Evaluates research literature that uses multivariate analysis for data analysis. Introduces nonparametric statistics. Interprets multivariate analysis computer output.

STAT 515. Grant- and Contract-Proposal Writing. 3 Units.

A module-based course that presents an overview of the basic principles and practice in the art and science of successful grantsmanship primarily from a research perspective and a program-based approach. Provides a comprehensive review and understanding of the relevant core structures, stakeholders, processes, factors, and essential skills by engaging students in the actual preparation of a proposal to a funding agency. Demonstrates in a "real world"-type practice environment the key elements in proposal development, submission, and the review process—which include identifying potential funding resources (from international, government, and private sectors such as foundations), formulating specific aims or objectives, determining appropriate research or program design and evaluation methods as applicable, and building realistic budget and sustainability plans.

AHCJ 555. Writing for Health-Care Professionals. 3 Units.
Writing for health professionals for professional publication. Selection of journal, preparation of abstract, manuscript or research paper for potential publication.

Elective Domain II: Leadership, Management, information management, and Policy

AHCJ 545 Legal and ethical issues in the health professions (3)
This course discusses the history and structure of federal and state governments, including torts, contracts, administrative law, criminal law, and reporting issues. Legal and ethical issues in patient confidentiality and release of patient information, and the impact of technology on the collection and dissemination of patient information are presented. Medical-legal liability issues, including corporate compliance.

AHCJ 566 Theoretical Foundations of Leadership (3)
A web-based course that introduces students to the discipline of leadership focuses on the relevance of leadership through study of trait theory, situational leadership, transactional vs. transformational leadership, leadership vs. management, and leadership ethics. Students will reflect upon theoretical approaches, correlate those approaches with personal experience, and apply those approaches in the professional setting.

HLIF 510. Health-Care Information Systems. 4 Units.
Development and diffusion of current and futuristic information systems in health-care organizations. Explores an array of systems, from modular applications to enterprise-wide systems. Encompasses the concepts of EHR, PHR, HIE, regulatory movements, system architecture, system theory, and strategic planning for information systems. Course includes weekly laboratory (2-4 hours) focused on demonstrating competency with Microsoft Excel.

HLIF 526. Quality and Performance Improvement for Health Care. 2 Units.
Explores methods, design, and process for quality improvement within health-care organizations. Topics covered include workflow analysis, error prevention, problem detection, problem solving, change management, and systems evaluation.

HLIF 515. The U.S. Health-Care System. 3 Units.

Analysis of health-care delivery in the United States, including organizations that provide health care, health-care professionals, beliefs and values, access issues, medical technology, regulatory requirements, reimbursement methods, and cost containment. Examines the evolution of the health-care delivery system beginning with the preindustrial era and ending with projections for the future of health-care delivery in the United States.

HADM 528. Organizational Behavior in Health Care. 3 Units.
Focuses on understanding, predicting, and influencing human behavior in an organization. Students gain experience using practical individual and group case studies and reading/researching organizational behavior books and topics that facilitate thinking through problems/issues and finding solutions as leaders, managers, and employees in organizations.

HADM 604. Health Systems Strategic Planning. 3 Units.
Describes the strategic planning process and examines the tools needed to analyze the external factors and internal capabilities as they relate to a particular organization. An overview on how to develop a vision, mission, goals, objectives and a control mechanism will be provided as well as insight on how best to implement developed strategy as it relates to human resource management, marketing and finance. The ability to consider the business, demographic, cultural, political and regulatory implication of decisions that improve long-term success and the viability of an organization will also be examined.

AHCJ 576. Basics of Marketing. 3 Units.
Provides an overview of the principles of developing a marketing strategy. Illustrates how marketing can assist an organization in arriving at a competitive advantage; and in creating, capturing, and sustaining value in the eyes of the buyer.

HPRO 535. Health Education Administration and Leadership. 3 Units.
Analyzes the managerial and leadership roles of the health education specialist in both public and private health organizations. Emphasizes organizational structure and health communication; as well as managing, supervising, marketing, decision making, and other administrative roles.

Elective Domain III: Education

AHCJ 515. Curriculum Development in Higher Education. 3 Units.
Examines principles of curriculum development. Selection, organization, and evaluation of learning experiences. Examines the nature, place, and interrelationship of general and specialized education in higher education.

AHCJ 586. Curricula Planning in Health Sciences. 3 Units.
Applies curriculum-development theories and approaches to the health science arena. Students develop a learning-centered curriculum.

AHCJ 509. Transformational Teaching and Learning. 3 Units.
Explores theories and styles of learning and personality factors that relate to learning. Includes implications of effective intellectual, emotional, and social functioning within the context of

structuring education for the adult learner. Includes analysis of the teaching process—from the setting of objectives, selection of content, and design of classroom and clinical teaching strategies (with particular emphasis on alternatives to lecturing) to assessment and evaluation.

AHCJ 564. Collaborative Learning in Higher Education. 3 Units.
Collaborative learning, theories of group-individual interaction, and the communication process. Educational orientation to the utilization of groups to enhance motivation, commitment, and learning in higher education.

Elective Domain IV: Sleep Disorders Specialty

RSPS 510 Sleep Neurophysiology and Pathologies (4)
First course in a three-course series that can be taken independent of the series. Case study-based analysis that covers advanced neurophysiology involved in various normal and abnormal sleep patterns and respiratory drive. Discusses common sleep pathologies and pharmacological interventions at the macro and molecular levels

RSPS 511 Methodologies in Sleep Disorder Assessment and Intervention (4)
Second course in a three-part series but can be taken independent of the series. Introduces the foundations of patient preparation for various polysomnogram evaluations. Includes detailed discussion of the physical principles employed in acquiring and interpreting cardiac, neuro, and respiratory diagnostics. Uses case studies to reiterate the components of a PSG, cardiac diagnostics (include 3/12-lead ECG), and certain neurodiagnostics important for thorough evaluation of sleep and respiratory patterns; as well as to distinguish between respiratory and nonrespiratory sleep disorders while introducing the pharmacology, noninvasive and invasive modalities, and behavioral/cognitive therapy commonly used in the treatment of sleep disorders.

RSPS 512 Advanced Polysomnography Practicum (4)
Third course in a three-course series. Clinic-based practicum in which students perform a variety of sleep assessments--including patient set up, observation/monitoring, data acquisition, evaluation, and scoring. Students apply interventional modalities, such as CPAP or bi-level therapy with appropriate titration to relieve respiratory-related sleep disorders. Gives students opportunities to perform advanced clinical procedures in the sleep center and to perform complete polysomnographs independently under supervision of the sleep center staff. Students present case studies based on patient-information gathering that include history and physical, review of systems, rationale for diagnostics and treatment, vital signs, medical history, questionnaire, scores, waveform, treatments, and study data. Program director provides approval for distance education students' mentorship and site assignment. At least half of the clinical activity mentored by a board-certified sleep specialist

Elective Domain V: Advanced Respiratory Care Practicum

RSTH 596, 597 Advanced Clinical Practice in Respiratory Care I, II, (2, 2)

Clinical practicum in medicine, pulmonary and critical care, under the direct supervision of a practicing- supervising, pulmonologist, or other physician pre-approved, with emphases on both in-patient and out-patient assessment, diagnosis, management, practice, and procedures. Pre-requisite-prior approval of the program director and an approved signed preceptor agreement on file.