

MED 807: Research 1 (RESC)
Summer 2018

Section 1: July 2 – August 10, 2018

Section 2: February 19 – March 22, 2019

Course Description and Objectives:

Opportunities for scientific inquiry, research, and scholarship are distributed over three periods of the curriculum. Research 1 initiates students to laboratory, clinically-based, or community research opportunities to cultivate skills associated with ethical practices, human subjects research, and life-long learning propensities essential for physicians. Students gain experience generating questions related to the practice of medicine and exploring various experimental methods available to resolve hypothesis-driven questions. Fundamental concepts and basic analytic methods pertaining to the design, analysis, and interpretation of clinical research studies is covered. Students are strongly urged to select a topic of particular interest and to investigate the subject independently, utilizing the advice of a faculty advisor and other resources in the UNLV community.

The Nevada community research option offers students longitudinal community-based, participatory research experiences and exposure to working with community organizations to improve health and healthcare services in both innovative and partnered ways. Given the complexity of healthcare issues and the diversity of healthcare needs of the American public, innovative solutions are required to integrate interventions at the public policy level, especially in medical practices and within community environments with limited resources and varying value systems. The longitudinal format of this course, offers students the opportunity to gain valuable experience in practicing various quantitative and qualitative methods used in partnered research endeavors, and in implementing partnered interventions and evaluations, as well as in understanding the practical/ethical issues involved in community-based research.

Both the NV community research and bench components of the curriculum provide students with unique opportunities to choose the content, form, and focus of their scholarship/learning, continue community-based research and involvement initiated in the Immersion and/or NV Community Service courses, or pursue clinical epidemiology and evidence-based medicine interests that may not otherwise have much time devoted or be included formally within the curriculum.

Research objectives aim to:

- Enhance student's study of medicine and foster a lifelong commitment to investigation, cross-disciplinary thinking, and community engagement.
- Describe the history and ethical considerations associated with human subjects research.
- Determine the process of obtaining informed consent to conduct human subject research.
- Recognize the role and function of the Institutional Review Board (IRB).
- Identify the special protections necessary for the responsible conduct of research involving special populations, *e.g.* children, pregnant women, human fetuses, *etc.*
- Identify the principles and specific guidelines for the protection of patient privacy in the conduct of human subjects research (HIPAA).
- Identify guidelines necessary for the responsible conduct of genetic-based research.
- Describe the process of reporting unanticipated problems involving risks to subjects or others in biomedical research.
- Distinguish what constitutes responsible conduct in record-based research.

- Describe the guidelines and regulations associated with conducting FDA-regulated research.
- Foster self-awareness and effective habits in working with the medically underserved and issues pertinent to the community.
- Construct mutually beneficial, sustainable relationships with community partners, engage in self-reflection, and recognize community health priorities and address them in culturally-sensitive educational, research, and outreach activities.

Required and Recommended Textbooks:

Required

- CITI Program. *Human Subjects Research (HSR) Series*. Collaborative Institutional Training Initiative. Lake Success, NY: Division of BRANY. Retrievable at citiprogram.org.

Additional texts and materials will be determined upon student and mentor discretion with reference to the research's area of interest/community focus.

Recommended for Community-Based Research

- Glanz, K., Rimer, B. K., & Lewis, F. M. (2008). *Health Behavior and Health Education: Theory, Research, and Practice*. San Francisco, CA: Josey-Bass.
- Israel, B. A. (2005). *Methods in Community-Based Participatory Research for Health*. San Francisco, CA: Josey-Bass.
- Jones, L. (2009). "Community Partnered Participatory Research: How We Can Work Together to Improve Community Health." *Journal of Ethnicity and Disease*, 19(4).
- Langley, G., Moen, R., Nolan, K., Nolan, T., Norman, C., & Provost, L. (2009). *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. (2nd ed.) Jossey-Bass Publishers.
- Wells, K. B., Staunton, A., Norris, K. C., Bluthenthal, R., Chung, B., Gelberg, L. Jones, L., Kataoka, S., Koegel, P., Miranda, J., Magione, C. M., Patel, K., Rodriguez, M., Shapiro, M., & Wong, M. (2006). "Building an Academic-Community Partnered Network for Clinical Services Research: The Community Health Improvement Collaborative (CHIC)." *Ethnic Disparities*, 16(1), pp. 3-17. Retrievable at: <http://www.ncbi.nlm.nih.gov/pubmed/16681125>

Recommended for Bench Research

- Friedman, L. M., Furberg C. D., DeMets, D. L., Reboussin, D. M., & Granger, C. B. (2015). *Fundamentals of Clinical Trials*. 5th edition. Springer International.
- Hulley, S. B., Cummings, S. R., Browner, W. S., Grady, D., & Newman, T. B. (2007). *Designing Clinical Research: An Epidemiological Approach*. 3rd edition. Wolters Kluwer | Lippincott, Williams & Wilkins.
- Meinert, C. L. (1986). *Clinical Trials: Design, Conduct, and Analysis*. 1st edition. Oxford University Press.
- Piantadosi, S. (2005). *Clinical Trials: A Methodologic Perspective*. 2nd edition. Wiley Series in Probability and Statistics: Wiley Interscience.

Course Layout & Expectations:

Research is a required component of the curriculum. Problem-based learning and evidence-based medicine components of the curriculum foster self-directed learning habits, as well as present

inquiry and investigative practices as attributes of professional behavior. Students are expected to demonstrate competency in research fundamentals and to participate in community or clinically-based projects, *e.g.* the Population Health element of the Immersion course or in conducting interventional and/or randomized control trials. Exposure to topics such as standard epidemiological concepts of incidence and prevalence, association and outcome, define and describe relative/absolute/attribution risks of observable research designs, definitions of and methods for reducing bias and confounding variables complements concepts presented in the Analytics in Medicine 1-3 series of courses.

Over the course of twelve weeks, distributed over three periods in the course of the program, students utilize community resources to complete the scholarly research requirement as a part of the Capstone experience (in Phase 3 of the curriculum) and to fulfill the research requisites for the MD degree. Each six-week period devoted to research in Phase 1 of the curriculum (Research 1 & 2) combine mentoring from field experiences and interactive learning sessions to introduce critical issues present in the community, and matters that arise in conducting laboratory, clinical, and translational research within community-based settings that involve practical and ethical concerns.

Additionally, dedicated UNLV research development programs administered through the Office of the Vice President of Research and Economic Development and the UNLV Collaborative Research and Education Initiative are available and cover relevant community-based research topics:

Practical/Ethical Issues

Topics include:

- Apply principles of strategic planning to public health.
- Demonstrate leadership skills for building community partnerships.
- Identify basic theories, concepts, and models from a range of social and behavior science disciplines that are used in public health research and practice.
- Identify critical stakeholders for the planning, implementation, and evaluation of public health programs, policies, and interventions.

Methods of Inquiry Used in Partnered Research and/or in Implementing Partnered Interventions and Evaluation

Topics include:

- Develop strategies to motivate others to partake in collaborative problem-solving, decision-making, and evaluation.
- Apply principles of strategic planning to public health.
- Demonstrate team building, negotiation, and conflict management skills.
- Collaborate with stakeholders and prioritize individual, organizational, and community concerns and resources for public health/community-based research.

Discussions, computer simulation exercises, Collaborative Institutional Training Initiative (CITI) modules, journal clubs, and a required scholarly research project are used to explain human subject considerations, as well as basic principles of scientific method, clinical and translational research.

Course Requirements & Evaluation:

Students receive immediate feedback and guidance on their community partnerships and projects from both academic/doctor mentors and the community leader affiliated with the partnering agency. Even more, the problem-based learning and evidence-based medicine components of the

curriculum offer students opportunities to engage in reflection, peer evaluation, and learn from each other's experiences.

Upon completion of the first six-week period dedicated to NV community or bench research, students must produce a community project plan or bench research proposal describing their community partner/project, identifying specific aims of the research, background regarding the issue/topic under study, methodology, approach for the development of relationships with community partner(s), progress to-date, project timeline, budget and allocation(s) justification, dissemination plan, projected challenges, and proposed solution(s).

Students are expected to arrive on time to all sessions and prepared to participate actively and engage in all active learning, small group, and community research activities in order to contribute and receive constructive feedback and assessment. Additionally, students are expected to be respectful, take responsibility and accountability for their own choices, actions, and/or decisions. Any student with a serious or multiple violations of professional behavior will be referred to the Medical Student Progress Committee (SPC) for review and potential action.

Grading:

A pass/fail (P/F) grade is based upon the completion of milestone tasks, and a mid-course formative (narrative) assessment.

Dress Code:

Students represent not only themselves, but also the medical profession to those with whom they have contact. Appropriate and professional attire should be worn, especially when students are in patient care settings or when contact with patients is anticipated. Students should be aware that personal appearance may serve to inspire or hinder the establishment of the trust and confidence that are essential in the doctor-patient relationship. Jeans, sandals, and shorts (and other casual attire) are not considered professional dress. Scrubs are worn in the operating room, in the anatomy lab or in other clinical circumstances to protect the operator's clothing from soilage. Scrubs, in general, should not be worn outside of the lab or hospital, and scrubs worn in the operating room should not be worn outside of the operating room. *(Please refer to Section 6: Professionalism in the UNLV SOM Student Handbook for guidelines pertaining specifically to dress.)*

University Expectations and Resources:

Academic Misconduct – Academic integrity is a legitimate concern for every member of the campus community; everyone share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the Student Academic Misconduct Policy (approved December 9, 2005) located at: <http://studentconduct.unlv.edu/>.

Copyright – The University requires all members of the University Community to familiarize themselves and to follow copyright and fair use requirements. You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.

Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/provost/copyright>.

Disability Resource Center (DRC) – The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with UNLVSOM’s Senior Associate Dean for Student Affairs, as well as a Disabilities Specialist at the DRC to discuss appropriate options.

If you are registered with the UNLV Disability Resource Center, please submit your Academic Accommodation Plan from the DRC to UNLVSOM’s Office of Student Affairs to develop strategies for implementing an accommodations plan that meets both your needs and UNLVSOM requirements. Any information provided is private and confidential. To maintain confidentiality, please do not approach course chairs or instructors before or after class to discuss accommodation needs.

Religious Holidays Policy – Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the Senior Associate Dean for Student Affairs and the course chair or faculty preceptor no later than the end of the first two weeks of classes, January 31, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. This policy shall not apply in the event that administering the test or examination at an alternate time would impose an undue hardship on the instructor or the university that could not have reasonably been avoided. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

Incomplete Grades – Course or clerkship/elective faculty share responsibility with individual students to monitor their performance in the curriculum. The Student Progress Committee (SPC) follows student performance throughout the curriculum, and is responsible for approving all remediation plans once students have been assigned an insufficient grade, such as an ‘Incomplete’ or ‘Fail.’

Remediation plans are developed by individual course directors, based upon individual student’s identified academic and professional deficits, and tailored by both the course director and the SPC. The SPC determines deadlines for the adequate remediation of the course and provides final approval of the remediation plan. Students have the option, upon request, to appear before the SPC when plans for remediation are being considered.

Please note: In Phase 3 of the curriculum, any remediation of elective or advanced clerkship deficits must be completed prior to April 1 to meet the School of Medicine’s graduation requirements. Students are not permitted to remediate more than two (2) course grades of ‘Incomplete’ during a single academic year. Students who receive more than two incomplete grades must be reviewed by the SPC. *(Please refer to Section 7: Academic Policies in the UNLVSOM Student Handbook for guidelines pertaining specifically to academic progress and actions.)*

Tutoring & Academic Resources – The Academic Skills Team (AST) provides academic assistance for all UNLVSOM students taking UNLVSOM courses. Students are encouraged to stop by the AST to utilize a variety of academic services, including test-tasking skills and strategies, coping with test anxiety, and improving self-study skills in preparation for USMLE and board exams. The AST is located at: 2040 West Charleston Boulevard, 89102.

UNLV E-mail – By policy, faculty and staff should e-mail students' UNLV e-mail accounts only. All UNLV students receive a Rebelmail account after they have been admitted to the university. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. Students' e-mail prefixes are listed on class rosters, and the suffix is: @unlv.nevada.edu.