

RSRCH 701, RESEARCH ELECTIVE ROTATION SYLLABUS 2 CREDITS FOR 2-WEEK ROTATION/4 CREDITS FOR 4-WEEK ROTATION CLINICAL EDUCATION

1. Contact Information				
Course Director				
Name	Department/ Division	Office	Phone	Email
Elizabeth McMurtry, DO, FACEP	Clinical Education		509.876.6646	emcmurtry@pnwu.edu

Supporting Staff				
Name	Department/ Division	Office	Phone	Email
Clinical Education				rotations@pnwu.edu
Office of Scholarly Activity				<u>osa@pnwu.edu</u>
Immunizations				immunizations@pnwu.edu
Registrar's Office				registrar@pnwu.edu

2. Course Description/Overview

Students interested in research may participate in ongoing basic and possibly clinical research projects by enrolling in this Research Elective. Students will be allowed to work with/under the direction of PNWU faculty on ongoing research projects, or with physicians or faculty from other institutions.

Scholarly activities/research are any systematic creative endeavors that generate new knowledge, challenge or expand existing knowledge, or identify gaps in knowledge, and which are intended to result in dissemination to external entities through peer reviewed mechanisms. According to the Accreditation Council for Graduate Medical Education (ACGME), scholarly activities fall into the following categories:

- Research (bench, translational, and/or human subjects)
- Quality improvement
- Public health surveillance
- Organized clinical discussions
- Rounds
- Journal clubs
- Conferences
- Peer-reviewed funding
- Publication of original research or review articles in peer reviewed journals

- Chapters in textbooks
- Publication or presentation of case reports or case series
- Clinical series at local, regional, or national professional and scientific society meetings
- Participation in national committees or educational organizations.

The ability to complete a research elective provides a unique research experience and a better understanding of clinical research. In RSRCH 701, research students will perform tasks along the spectrum of research including but not limited to: literature review, drafting protocols, collecting data, data entry, subject recruitment, data analysis, abstract preparation, manuscript preparation, and presentation. A preceptor must be identified (with prior approval) to supervise the student's activities on this rotation. Students will participate in various stages of the process of conducting and evaluating research. The stages of the processes in which students participate depend on the status of the project and the student's skills and interests, and may include data collection and entry, patient enrollment, database construction, chart review, and exposure to grant writing. Students will work as part of a research team within a department.

<u>Prerequisite:</u> Only students listed in good academic standing with PNWU and/or do not have on record a recently failed COMLEX exam are permitted to take this elective.

3. Course Purpose/Goals

The purpose of this course is to give students an opportunity to develop skills in research and scholarly activity, foster a mindset of improvement and curiosity, and to ensure professional responsibilities are met as required per federal and state laws as well as demonstrating the Core Entrustable Professional Activities (EPAs) for Entering Residency.

In certain specialties, research participation that leads to peer-reviewed presentations or publications can enhance residency applications and CVs. This can be especially true at institutions where faculty members are highly productive researchers who value ongoing scholarly activity.

4. Entrustable Professional Activities (EPAs)			
Course Learning Objectives	Description of Activity	Domains of Competence	
EPA 1: Gather a history and perform a physical examination including an osteopathic structural exam as appropriate.	Osteopathic medical students should be able to perform an accurate, complete or focused history and physical exam in a prioritized, organized manner without supervision and with respect for the patient. The history and physical examination should be tailored to the clinical situation and specific patient encounter. This data gathering and patient interaction activity serves as the basis for clinical work and as the building block for patient evaluation and management. Learners need to integrate the scientific foundations of medicine with clinical reasoning skills to guide their information gathering.	 Patient Care Knowledge for Practice Interpersonal and Communication Skills Professionalism Osteopathic Principles and Practice (OPP) 	

EPA 2 : Prioritize a differential diagnosis following a clinical encounter (musculoskeletal considerations that may lead to somatic dysfunction).	To be prepared for the first day of residency, all osteopathic medical students in training need to be able to integrate patient data to formulate an assessment, developing a list of potential diagnoses that can be prioritized and lead to the selection of a working diagnosis. Developing a differential diagnosis is a dynamic and reflective process that requires continuous adaptation to avoid common errors of clinical reasoning such as premature closure.	 Patient Care Knowledge for Practice Practice-Based Learning and Environment Interpersonal and Communication Skills Personal and Professional Development Osteopathic Principles and Practice (OPP)
EPA 3: Recommend and interpret common diagnostic and screening tests	This EPA describes the essential ability of the day one resident to select and interpret common diagnostic and screening tests* using evidence-based and cost-effective principles as one approaches a patient in any setting	 Recommend first-line, cost-effective diagnostic evaluation for a patient with an acute or chronic common disorder or as part of routine health maintenance. Provide a rationale for the decision to order the test. Incorporate cost awareness and principles of cost-effectiveness and pre-test/post-test probability in developing diagnostic plans. Interpret the results of basic diagnostic studies (both lab and imaging); know Common lab values (e.g., electrolytes). Understand the implications and urgency of an abnormal result and seek assistance for interpretation as needed. Elicit and consider patient preferences in making recommendations. Clinical Experiences Presentations

		COMAT
EPA 4 : Enter and discuss orders and prescriptions and applicable Osteopathic treatments.	Writing safe and indicated orders is fundamental to a physician's ability to prescribe therapies or interventions beneficial to patients. It is expected that Osteopathic medical students will be able to do this without direct supervision when they matriculate to residency. Entering students will have a comprehensive understanding of some but not necessarily all of the patient's clinical problems for which they must provide orders. They must also recognize their limitations and seek review and guidance for any orders and prescriptions they are expected to provide but for which they do not understand the rationale. The expectation is that learners will be able to enter safe orders and prescriptions in a variety of clinical settings (e.g., inpatient, ambulatory, urgent, or emergent care).	 Patient Care Knowledge for Practice Practice-Based Learning and Environment Interpersonal and Communication Skills Professionalism Osteopathic Principles and Practice (OPP)
EPA 5 : Document a clinical encounter in the patient record.	Osteopathic medical students should be able to provide accurate, focused, and context-specific documentation of a clinical encounter in either written or electronic formats. Performance of this EPA is predicated on the ability to obtain information through history, using both primary and secondary sources, and physical exam in a variety of settings (e.g., office visit, admission, discharge summary, telephone call, and email).	 Patient Care Interpersonal and Communication Skills Professionalism Osteopathic Principles and Practice (OPP)
EPA 6 : Provide an oral presentation of a clinical encounter.	Osteopathic medical students should be able to concisely present a summary of a clinical encounter to one or more members of the health care team (including patients and families) in order to achieve a shared understanding of the patient's current condition. A prerequisite for the ability to provide an oral presentation is synthesis of the information, gathered into an accurate assessment of the patient's current condition.	 Practice-Based Learning and Environment Interpersonal and Communication Skills Professionalism Personal and Professional Development
EPA 7 : Form clinical questions and retrieve evidence to advance patient care.	It is crucial that students be able to identify key clinical questions in caring for patients, identify information resources, and retrieve information and evidence that will be used to address those questions. Osteopathic medical students should have basic skill in critiquing the quality of the evidence and assessing applicability to their patients and the clinical context. Underlying the skill set of practicing evidence- based medicine is the foundational knowledge	 Knowledge for Practice Practice-Based Learning and Improvement

	an individual has and the self-awareness to identify gaps and fill them.	
EPA 8 : Give or receive a patient handover to transition care responsibility.	Effective and efficient handover communication is critical for patient care. Handover communication ensures that patients continue to receive high-quality and safe care through transitions of responsibility from one health care team or practitioner to another. Handovers are also foundational to the success of many other types of interprofessional communication, including discharge from one provider to another and from one setting to another. Handovers may occur between settings (e.g., hospitalist to PCP, pediatric to adult caregiver, discharges to lower-acuity settings) or within settings (e.g., shift changes).	 Patient Care Practice-Based Learning and Environment Interpersonal and Communication Skills Professionalism
EPA 9 : Collaborate as a member of an interprofessional team.	Effective teamwork is necessary to achieve the Institute of Medicine competencies for care that is safe, timely, effective, efficient, and equitable. Introduction to the roles, responsibilities, and contributions of individual team members early in professional development is critical to fully embracing the value that teamwork adds to patient care outcomes.	 Interpersonal and Communication Skills Professionalism Systems-Based Practice Interprofessional Collaboration
EPA 10 : Recognize a patient requiring urgent or emergent care and initiate evaluation and management.	The ability to promptly recognize a patient who requires urgent or emergent care, initiate evaluation and management, and seek help is essential for all physicians. New residents, in particular, are often among the first responders in an acute care setting, or the first to receive notification of an abnormal lab or deterioration in a patient's status. Early recognition and intervention provide the greatest chance for optimal outcomes in patient care. This EPA often calls for simultaneously recognizing need and initiating a call for assistance.	 Patient Care Interpersonal and Communication Skills
EPA 11 : Obtain informed consent for procedures/tests (under preceptor supervision).	All physicians must be able to perform patient care interventions that require informed consent. Osteopathic medical students may be in a position to obtain signatures for informed consent for interventions, tests, or procedures they order or perform (e.g., immunizations, central lines, contrast and radiation exposures, blood transfusions, and OMM) after risks and benefits have been explained by the physician caring for the patient.	 Patient Care Interpersonal and Communication Skills Professionalism Systems-Based Practice Personal and Professional Development

EPA 12 : Perform general procedures of a physician including applicable Osteopathic treatments.	 All Osteopathic medical students must demonstrate competency in performing a few core procedures under supervision on completion of medical school in order to provide basic patient care. These procedures include: Basic cardiopulmonary resuscitation (CPR) Bag and mask ventilation Venipuncture Inserting an intravenous line Osteopathic manipulative medicine (OMM) 	 Patient Care Interpersonal and Communication Skills Professionalism Systems-Based Practice Personal and Professional Development Osteopathic Principles and Practice (OPP)
EPA 13 : Identify system failures and contribute to a culture of safety and improvement.	Preventing unnecessary morbidity and mortality requires health professionals to have both an understanding of systems and a commitment to their improvement. This commitment must begin in the earliest stages of health professional education and training. Therefore, this EPA is critical to the professional formation of a physician and forms the foundation for a lifelong commitment to systems thinking and improvement.	 Knowledge for Practice Practice-Based Learning and Environment Interpersonal and Communication Skills Professionalism Systems-Based Practice

Prepared by the American Association of Colleges of Osteopathic Medicine, in conjunction with all U.S. Osteopathic Medical Schools. April 2016. Osteopathic Considerations for Core Entrustable Professional Activities (EPAs) for Entering Residency, 2016.

5. Course Learning Objectives (NBOME)			
Course Learning Objectives	Methods of Assessment	Learning Activities	
Osteopathic Practice and Principles Candidates must be able to demonstrate knowledge of osteopathic principles and practice, and to demonstrate and apply knowledge of somatic dysfunction diagnosis and Osteopathic Manipulative Treatment in the clinical setting.	Preceptor and Assistant Dean Feedback, Scholarly Activity product (abstract, presentation, manuscript, and/or literature review), Preceptor Evaluation, and course director review.	Scholarly activity product (abstract, presentation, manuscript, and/or literature review), application to or presentation at PNWU Research Symposium, or other conference, or CV entries, etc.	
Patient Care Provide patient-centered care that is culturally responsive, compassionate, and appropriate for the effective treatment of illness and promotion of health.	Preceptor and Assistant Dean Feedback, Scholarly Activity product (abstract, presentation, manuscript, and/or literature review), Preceptor Evaluation, and course director review.	Scholarly activity product (abstract, presentation, manuscript, and/or literature review), application to or presentation at PNWU Research Symposium, or other conference, or CV entries, etc.	

Medical Knowledge Demonstrate an understanding and application of the evolving ethics of human subject research, osteopathic, biomedical, clinical, epidemiological, biomechanical, and cognate (e.g., epidemiological and social-behavioral) sciences to optimize patient care.	Preceptor and Assistant Dean Feedback, Scholarly Activity product (abstract, presentation, manuscript, and/or literature review), Preceptor Evaluation, and course director review.	Scholarly activity product (abstract, presentation, manuscript, and/or literature review), application to or presentation at PNWU Research Symposium, or other conference, or CV entries, etc.
Practice-Based Learning and Improvement Demonstrate the ability to continuously evaluate patient care practices, scientific evidence and personal beliefs and biases as they relate to improving the care of patients and optimizing patient outcomes.	Preceptor and Assistant Dean Feedback, Scholarly Activity product (abstract, presentation, manuscript, and/or literature review), Preceptor Evaluation, and course director review.	Interactions with preceptor and/or patients, self- evaluations and preceptor evaluations, scholarly activity product (abstract, presentation, manuscript, and/or literature review), application to or presentation at PNWU Research Symposium, or other conference, or CV entries, etc.
Interpersonal and Communication Skills Demonstrate the ability to consistently interact respectfully, empathetically, and professionally with patients, families, allied health care providers, staff and colleagues, to optimize patient and research outcomes.	Preceptor and Assistant Dean Feedback, Scholarly Activity product (abstract, presentation, manuscript, and/or literature review), Preceptor Evaluation, and course director review.	Interactions with preceptor and/or patients, self- evaluations and preceptor evaluations, scholarly activity product (abstract, presentation, manuscript, and/or literature review), application to or presentation at PNWU Research Symposium, or other conference, or CV entries, etc.
Professionalism Demonstrate a commitment to the highest standards of professional responsibilities, adherence to ethical principles and cultural responsiveness to diverse beliefs and customs.	Preceptor and Assistant Dean Feedback, Scholarly Activity product (abstract, presentation, manuscript, and/or literature review), Preceptor Evaluation, and course director review.	Interactions with preceptor and/or patients, self- evaluations and preceptor evaluations, and/or CV entries, etc.
Knowledge for Practice Develop a foundation of knowledge in anatomy, physiology, pathophysiology, clinical medicine, osteopathic principles related to Primary Care, and clinical research. Students will be expected to apply this knowledge and demonstrate effective diagnostic and therapeutic reasoning skills related to these systems.	Preceptor and Assistant Dean Feedback, Scholarly Activity product (abstract, presentation, manuscript, and/or literature review), Preceptor Evaluation, and course director review.	Scholarly activity product (abstract, presentation, manuscript, and/or literature review), application to or presentation at PNWU Research Symposium, or other conference, or CV entries, etc.

Systems-Based Practice Effectively utilize available health care system resources to provide optimal health care to the individual patient and local and global communities.	Preceptor and Assistant Dean Feedback, Scholarly Activity product (abstract, presentation, manuscript, and/or literature review), Preceptor Evaluation, and course director review.	Scholarly activity product (abstract, presentation, manuscript, and/or literature review), application to or presentation at PNWU Research Symposium, or other conference, or CV entries, etc.
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6. Course Schedule/Calendars

This rotation block is scheduled from Monday of the first day through Sunday of the last day. The schedule for this rotation is negotiated with the preceptor of record and may be up to 80 hours per week. This rotation is designed as an independent research elective. There is no attendance requirement, but there should be communication with your preceptor with any questions or for guidance on the end scholarly activity product. PNWU understands the final scholarly activity product may not be complete at the end of the scheduled rotation time frame. In order to receive elective credit, the student must be able to provide sufficient evidence of scholarly activity upon request. The student will inform their Regional Site Administrator of their plans for research elective prior to reaching out to their chosen preceptor.

7. Course Format

This course is an independent elective course based on the student's research objectives. The format is flexible but must contain the following components:

- A JotForm application to conduct a Research Elective Rotation which includes:
 - The student's objectives for the rotation with clear goals for dissemination
 - Contact information for the preceptor
- Scholarly activity product

- Lessons learned and next steps the student will take with this project or recommendations for next steps for other members of the research team

The Clinical Didactics longitudinal course takes place over the third and fourth years of medical school. It consists of two hundred hours of educational activities. Faculty-led components will be held on Wednesday afternoons. Attendance and completion of assigned tasks will be tracked and will be reviewed with the student's Assistant Dean on a periodic basis. Successful completion of the Clinical Didactics course is required for graduation. Details for educational activities will be shared with students on a weekly basis.

8. Course Logistics

Preceptors can be found independently by the student, with help from Clinical Education, or with help from the Office of Scholarly Activity. The preceptor should be identified by the time you submit the JotForm. Once a preceptor is identified, a conference call or e-mail exchange *may* be arranged with the course director, if necessary, to ensure communication of the scholarly activity interests, research experience of the student, answer questions about the course content, and introduce the conceptual frameworks that are integral to this study.

Students must complete a JotForm when they express an interest in conducting research/scholarly activity for credit. The form is located here: <u>https://form.jotform.com/72985764600162</u>

The JotForm must be submitted a minimum of three weeks prior to the anticipated rotation start date in order to form appropriate research objectives and ensure human subject protection federal regulations. Students who are planning international research elective rotations must submit their form at least three months in advance of the anticipated start date.

Research Elective Rotation General Outline

One to six months before the rotation:

- Develop a project idea and research question.
- Select a preceptor. The preceptor of record must be PNWU Clinical Faculty. (If you have questions about Clinical Faculty, please contact rotations@pnwu.edu.)
- Work with your preceptor to develop appropriate objectives for your rotation.
 - The student will meet with an OSA representative to review objectives prior to submitting their JotForm
- Ensure you have appropriate permissions to conduct your project
 - Do you need IRB or IACUC approval? Contact the Office of Scholarly Activity for guidance.
 - If you are working on an already approved human subject research protocol and/or animal protocol, you must provide the approval letter from the IRB/IACUC of record which will inform the PNWU IRB of the student's involvement in the study.
 - Students hoping to do research or scholarly activities abroad will need to consult with the Office of Scholarly Activity to ensure they meet international research regulations. Many countries require research permits than take a year to apply for and receive.
- Submit a research elective JotForm for review & approval.
 - Dr. McMurtry receives and reviews research elective JotForm requests.
 - The following will receive a notification of her decision via email:
 - o Student
 - o Student's Regional Site Administrator
 - o Student's Regional Clerkship Administrator
 - Office of Scholarly Activity
 - If approved, the student's Regional Clerkship Administrator will enter course 'RSRCH701' on the student's schedule in E*Value for the approved time frame (student does not submit an ERF).
 - If denied, a reason for decision will be provided with further instruction.

During your rotation:

- Communicate weekly, or more, with your preceptor
 - Discuss findings, ask clarifying questions, and obtain feedback. Inform your preceptor if your plans need to change or of unexpected findings/events occur with your project.
- Complete your objectives
- Write up your scholarly activity product

On the last day of your rotation:

- Please e-mail your preceptor, course director, and OSA on or by the day of rotation with the following:
 - o Proof of objectives completed to date
 - Your next steps with this project (e.g. publication, presentation, IRB submission, or nothing)
- Complete E*Value evaluations

Appropriate objectives for a research elective rotation:

Conduct background research to draft a 1 to 2-page literature review AND: *(select one or more of the following)*

- Develop and submit an IRB application
- Revise and submit an IRB application
- Conduct field research including surveys, focus groups, and/or clinical exams
- Perform quantitative and/or qualitative data analysis
- Find and review articles for a systematic review
- Review charts and collect data for a retrospective chart review
- Review charts for a case study of 1-4 patients and develop a manuscript
- Conduct background research and develop educational materials for appropriate public health surveillance or quality improvement projects

OR

Conduct secondary research and draft a 10 to 20-page literature review.

The following items can also be included as objectives, but are not robust enough by themselves to constitute an entire research elective rotation:

- Draft and submit an abstract to a conference
- Create a presentation or poster for a conference
- Write a blog post for PNWU's blog
- Co-author a clinical opinion or editorial for a publication

9. Learning Assessments

Formative Assessments			
Assessme	Pass/Fail		
Course Director Reviews	Pass/Fail		
Preceptor Evaluation of Student Performance	Pass/Fail		
Assessment Type		Date Due	Points
Final Scholarly Activity Product	Emailed to your preceptor and course director	Last Friday of Rotation	Pass/Fail

Summative Assessments	
Assessment	Pass/Fail
Preceptor Evaluation of Student Performance	Pass/Fail
Attendance/Participation (any unexcused absence constitutes a fail)	Pass/Fail
Complete training and objectives (e.g. CITI)	Pass/Fail
Scholarly Activity Product	Pass/Fail

10. Exam Policy

No end-of-service examinations are given by PNWU during electives.

11.	Course Textbooks & Supplies		
Required Textbooks			
	Title/ISBN	Author/Publisher/Edition	

Preceptor may recommend reading materials.	Contact your preceptor(s).
Self-Guided Modules - PubMed Essentials	Rebecca Brown, MLS, AHIP, Training Development Specialist
	Link on PNWU Moodle Research Education Course http://moodle.pnwu.edu/course/view.php?id=251

Suggested Additional Resources	
Title/ISBN	Author/Publisher/Edition
Resolving Ethical Dilemmas: A Guide for Clinicians / 9781975103545	Lo, Bernard. (6th Edition). Philadelphia: Lippincott Williams & Wilkins. Available on <u>LWW Health Library</u>
Basic references – how to write an abstract, structure a literature review, develop a poster, etc	

12. Student Roles and Responsibilities

Links to current Student Catalog and Student Handbook:

https://www.pnwu.edu/admissions/student-catalog https://www.pnwu.edu/students/student-handbook

a. Student Professionalism

Professional behavior is expected at all times during this course. It is important that students learn to discuss topics of a sensitive nature in a caring and professional manner. Use of cell phones or texting during class is prohibited. For further clarification of student professionalism expectations, see p. 23 of the Student Catalog.

b. Honor Code

The highest standards of academic honesty are required of all PNWU-COM students at all times. It is expected that no PNWU student will be dishonest in any way, or give the impression of dishonest behavior, nor will PNWU students tolerate dishonesty in others. Disciplinary action may occur as a result of failure to comply with these standards.

c. Academic Support

Students who are having difficulty meeting the requirements of this course should discuss it with their Assistant Dean whenever a problem arises. Students in need of peer tutorial assistance are directed to contact the Learning Skills Specialist on campus through Student Affairs. Though Student Affairs strives to accommodate all tutorial assistance requests, priority will be given to students who demonstrate need based on their academic performance.

The most successful students will practice the following behaviors:

Prior to First Day - Course Prep Checklist

- Human Subjects Research Training
 - All individuals (PNWU students, faculty, staff as well as unaffiliated investigators) conducting human subject research, whether on the PNWU campus or elsewhere, must have training in responsible conduct of research and protection of human subjects. Training is required to be completed through CITI Program.
 - http://www.pnwu.edu/inside-pnwu/departments/osa/scholarly-activity/training/

- Any questions, please email <u>osa@pnwu.edu</u>
- Institutional Review Board (IRB) Approval (If applicable)
 - Provide documentation that the study you are working on is IRB approved
- Send a copy of the protocol and approval letter to <u>research@pnwu.edu</u> (If applicable)
 - Provide documentation that you have been added as personnel to the existing IRB approved protocol
- Send a copy of the protocol and approval letter to <u>research@pnwu.edu</u> (If applicable)

If research does not require clinical participation, some of the following guidelines may not apply. Please communicate with your preceptor regarding expectations.

First day

- Ensure your preceptor has all your contact information
- Ask your preceptor what expectations of communication are
- Ask about the regular schedule, on-call expectations and notify the preceptor if there are any excused absence days (i.e. COMLEX exams)
- Find out where personal items may be placed and documentation can be done, as well as policies regarding student access to and documentation of research records and medical records
- Greet and be courteous to all staff. Be careful of joking, off-color humor or comments that could be misunderstood

<u>Daily</u>

- Be on time and prepared with what is needed
- Greet and be courteous to all staff. Be careful of joking, off-color humor or comments that could be misunderstood.
- Be prepared to assist in any opportunities that present
- Be enthusiastic. No matter what his/her area of interest is, there are things the student will be exposed to that may not be seen again in his/her career
- Research Training Course

Weekly

- Participate
- Be prepared
- Ensure progress towards your scholarly activity product

End of Rotation

• The student should ask for a final review of his/her performance during the last week of the rotation. Students should be getting feedback from the preceptor informally daily on performance and areas needing improvement. Supplying the preceptor with a paper copy of the evaluation will help secure completion of the evaluation while your performance is fresh in the preceptor's mind. If the student has felt especially positive about the interactions, consider asking the preceptor if he/she would be willing to write a strong letter of recommendation.