



NOORDA COLLEGE
of OSTEOPATHIC MEDICINE

Policy Name:	Student Research and Scholarly Activity Policy
Approval Authority:	Dean's Council
Responsible Executive:	Associate Dean for Research
Responsible Office(s):	Research
Effective:	January 2020
Expires:	May 2024
Last Revised:	N/A
Next Review:	N/A

Student Research and Scholarly Activity

Policy Statement

Student Research and Scholarly activity at Noorda College of Osteopathic Medicine (Noorda-COM) is central to and incorporated across the continuum of the curriculum. Engaging in research as an osteopathic medical student develops the analytic and critical thinking skills essential in the integration of scientific discovery with clinical insight and patient care. These abilities not only help students better understand disease, they teach how to review and interpret scientific literature to keep up to date with the latest advances in the field.

Students are imparted an understanding of the basics of scholarly activity and scientific research as a component of Osteopathic Principles (OP) and the Core Entrustable Professional Activities (CEPA) courses. Experiential learning through structured, progressive participation in original Noorda-COM research begins in the first week of the first year and culminates in completion of a capstone course at the end of the fourth year.

Noorda-COM students contribute to scientific discovery and dissemination of new knowledge in the biomedical sciences, clinical, osteopathic, public health, and medical education through participation in research projects under the supervision and mentoring of Noorda-COM faculty. Research opportunities will be available in the biomedical and clinical sciences at Noorda-COM often in collaboration with faculty at local, regional, and national universities, colleges, and medical centers. Clinical, quality improvement and public health research opportunities involving other health care professionals, including but not limited to PA's, Nurses, DC's, PT's, OT's and health care administrators are integrated.

Entities Affected by the Policy

- Dean
- Associate Dean for Research
- Assistant Dean for Clinical Affairs
- Faculty
- Students

Policy Procedures

I. COM Curricular Requirements on Research and Scholarly Activities

1. Curriculum on Evidence-Based Medicine and Practice

Osteopathic Principles (OP) Course at the beginning of OMS year I, incorporates research specific content on health systems sciences, evidence-based medicine, and ethical, clinical practices. Noorda-COM treats research and scholarly activities as a core entrustable professional activity in the development of an osteopathic medical student towards successfully achieving graduate medical education.

Students engage in the development, execution and reporting of research and scholarly activities pursued as an allocated effort within the **Core Entrustable Activities (CEPA) Course**. This course is a *four (4) year longitudinal curriculum* that progressively provides students the foundation skills of patient care. Students have more or less engagement with the research component of this course depending upon the research project developed as a required learning objective.

At the conclusion of the OMS IV year students complete and finalize their research efforts within the **Capstone Course**. A requirement for successful completion of this course is a journal article (suitable for publication), an abstract of primary research which should ultimately culminate in a poster presentation at Research Day or a national research conference, and/or a publication in a journal.

2. Research Project Development

Under the support and direction of the Associate Dean for Research, faculty are identified as researchers and mentors and organized into cohorts consistent with institutional goals and strategic direction.

1. Faculty Mentors
 - a. The faculty within the cohort will develop a mission and vision for their group and identify a strategic plan
2. Research Teams
 - a. Students apply for consideration by the cohort leadership at the initiation of the second semester of the first year
 - b. Cohort leaders, in collaboration with the Associate Dean for Research, select students
 - c. Projects should involve students in as many aspects of research and the scholarly process as possible
3. Research Question (Projects)
 - a. Cohorts establish research focus(es) and assign students to projects under the cohort
 - b. Grants targeting
 - i. Review of all opportunities for granting of identified cohort projects is accomplished under guidance of Associate Dean for Research
 - c. Students, under the direction of cohort mentors define:
 - i. Scientific Significance
 1. Purpose of the study, specific aims/hypothesis(es)
 2. Quality of the existing scientific literature
 3. How the research supports the specific aims and hypotheses
 4. Potential for external funding
 - ii. Osteopathic Significance
 1. How the research question and study design:
 - a. Improves quality of the osteopathic literature
 - b. Supports the research proposal
 - c. Advances the field of osteopathic medicine

- iii. Literature Review
 - 1. Consultation is undertaken with Medical Librarian in formulating key words for literature search in determination of related content:
 - a. Premise
 - b. Findings
 - c. Statistical significance
 - d. Areas for further exploration
 - iv. Biostatistics Analysis
 - 1. Consultation with biostatistician on supporting research question through appropriate statistical analysis and data collection
 - v. Research Plan and Methods
 - 1. Overall strategy, methodology, and analyses (including power analysis, timelines and milestones)
 - 2. Logical and appropriate proposal to accomplish the specific aims
 - 3. Discuss the limitations and possible alternative strategies
 - 4. For projects involving human subjects
 - a. Protection of human subjects from research risks
 - b. Inclusion (or exclusion) of individuals on the basis of sex/gender, race, and ethnicity, as well as the inclusion (or exclusion) of children
 - vi. Innovation
 - 1. Challenges and seeks to shift current research or clinical practice paradigms
 - 2. Utilizes novel theoretical concepts, approaches or methodologies, instrumentation, or interventions
 - 3. Considers whether the concepts, approaches or methodologies, instrumentation, or interventions are novel to one field of research or novel in a broad sense
 - 4. Refines, improves, or demonstrates advancement of application of theoretical concepts, approaches or methodologies, instrumentation, or interventions
- d. Budget Development
 - i. Create individual and cohort specific expense proposal(s) for projects
 - 1. Direct
 - 2. Indirect
 - e. Impact
 - i. Of project to exert a sustained, powerful influence on the research field(s) involved
 - ii. The budget and budget justifications will be reviewed
 - iii. Quality of the proposal (i.e., clarity, conciseness, organization and presentation) evaluated by cohort leadership
 - f. Biographic Sketch Development
 - i. Faculty mentors work with assigned students in the development of a bio sketch for the purpose of grant submission
 - g. Institutional Review Board Submission
 - i. Students accomplish supporting materials and application for approval to pursue and execute project

3. Research Project Execution

Students define a research plan with their faculty mentor that includes scholarly activity, such as a poster presentation at Research Day or a national research conference, and/or a publication in a journal. Students have more or less engagement with the research component during clinical rotations depending upon the research project developed.

The Office of Research will facilitate student research and scholarship during the academic year by providing limited internal grants and support in the application process for external grants. Faculty will mentor students in the proposal-writing and submission process. Internal grant proposals will include a description of the nature of student activities, learning goals and objectives, faculty mentoring approaches, and activities planned including history of prior faculty-mentored student research projects. Students will be expected to contribute to or co-author a manuscript for publication that results from their work.

Years 3 and 4 Clinical Sites

During the clerkship years (MSIII and MSIV), students are required to fulfill the research and scholarship requirement associated with their research cohort as well as any research specified by individual clinical training sites. Policies regarding required research and scholarship activities are described in the clerkship manual provided by individual clinical training sites. All students are to complete one scholarly/research activity annually and participate in the annual research forum. Students are encouraged to submit their presentations to state and regional research forums, as well as national conferences.

Research Elective

During the fourth year, students can apply for research electives for which they may receive academic credit. Students must apply to the Assistant Dean for Clinical Affairs after approval of the planned activity by the Associate Dean for Research.

A requirement for completion is a written review article covering the scope of the research project, including the project description and how the educational and evaluative criteria will be met. This review should be a journal article (suitable for publication) with an abstract of primary research, which should ultimately culminate in a poster or oral presentation at Noorda-COM's research forums (and/or a scientific conference).

4. Pre-doctoral Fellow of Osteopathic Manipulative Medicine (OMM)

The *Pre-doctoral Fellow of OMM* administered by the Departments of Osteopathic Practices and Principles is designed to expand the educational opportunities for selected Noorda-COM students with guided learning experiences in the areas of medical education, research, and osteopathic principles and practices while they assist in all phases of the departments' operations. Fellows will assist in lecturing, teaching, assessing, and counseling of the first and second year students. During the year the fellow(s) provide clinical services under the supervision of faculty members and they are encouraged to develop or participate in research projects with the assistance of the basic science and/or clinical faculties.

The major goal of this fellowship program is to provide the fellow(s) with the knowledge and skills needed to significantly contribute to teaching, clinical practice and research in the area of OMM throughout their professional careers. In addition, the Departments of Osteopathic Practices and Principles also administered a year-long *Osteopathic Pre-doctoral Research Fellowship* for students who committed to devote one extra year from their Noorda-COM program to work on research projects full time.

II. Research and Scholarship Forums

To further enhance the culture of research and scholarship, particularly among the Noorda-COM students, the COM co-hosts an annual Research Day with Rocky Mountain University of Health Professions. All Noorda-COM students can submit abstracts and present posters at this event.

The research day/research forum activity also includes a keynote speaker and oral presentations by selected students and faculty members. Additional oral presentations by faculty and students are often arranged within the same week or month as the research day/research forum. Further, COM students have opportunity to present at the research day-type activities within individual clinical rotation sites.

III. Noorda-COM Student Research and Scholarly Activities

Student Publication

Besides oral and poster presentations at the Noorda- COM-sponsored forums, many of the Noorda-COM students are expected to present their work externally. Further, some of our students will participate in writing up their research projects and co-author journal articles.

Noorda-COM will provide funds for students to attend local, regional, national or international meetings as outlined in the Application for Noorda-COM Student Research Presentation Travel Funding. Funds will support student participation in scientific discovery and dissemination of new knowledge in the biomedical sciences, clinical, osteopathic, public health, and medical education research.

Definitions

Responsibilities

- Associate Dean for Research
- Assistant Dean for Clinical Affairs
- Chair of Biomedical Sciences
- Chair of Clinical Sciences

Violations of the Policy

Failure to comply with research and scholarly activities can lead to delay in graduation or potentially dismissal from the COM.

Interpreting Authority

- Deans Council
- Associate Dean for Research

Statutory or Regulatory References

<https://osteopathic.org/students/student-resources/research/>

Policy Adoption Review and Approval

Dean's Council