UNIVERSITY OF
SOUTH DAKOTA
SANFORD SCHOOL OF MEDICINE

Physician Scientist (MD/PhD)

Program Handbook

2026

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Physician-Scientist (MD/PhD) Program Handbook
Sanford School of Medicine - The University of South Dakota

I. Vision, Mission, and Diversity Statements of the Sanford School of Medicine

- **Vision Statement**
  The University of South Dakota Sanford School of Medicine will be a leader in educating students who, with knowledge, skill, and compassion, dedicate their lives to the well-being of their patients, their community, and their profession.

- **Mission Statement**
  The mission of the University of South Dakota Sanford School of Medicine is to provide South Dakota residents with the opportunity to receive a quality, broad-based medical education with an emphasis on family medicine. The curriculum is to be established to encourage graduates to serve people living in medically underserved areas of South Dakota and to require excellence in the basic sciences and all clinical disciplines. The University of South Dakota Sanford School of Medicine is to provide our students and the people of South Dakota with excellence in education, research, and service. To these ends, the school is to provide educational pathways leading to both the Doctor of Medicine and the Doctor of Philosophy degrees. Quality health care for the people of South Dakota is addressed by undergraduate, graduate, and continuing education programs as well as by basic and applied medical research. The Sanford School of Medicine should serve as a technical resource in the development of health care policy in the state and provide extension and research initiatives to improve the health care of the citizens of the state.

- **Opportunity Statement**
  The University of South Dakota Sanford School of Medicine is committed to fostering a dynamic and welcoming learning environment for all. Therefore, the medical school is committed to both recruitment and retention of students, residents, faculty, and staff who, through their intellectually and ideologically diverse perspectives, enrich the learning environment. We provide equal opportunities for all. We value people with broad life experiences, with records of service to disadvantaged populations, and with other attributes that may enhance the learning community.

- **Vision of the Physician-Scientist Program**
  The vision of the Sanford School of Medicine's Physician-Scientist program is to train research investigators who approach human biology and disease from the point of view of a trained physician. The program seeks exceptional people fascinated by biology and disease, and is passionate about learning about how things work and about helping people. Physician-Scientists are leaders in medical research, able to blend clinical medicine with the discovery and application of new knowledge.

II. Administrative Organization of the Physician-Scientist Program

The Physician-Scientist Training Program is a separate program from the MD and PhD training programs. However, it shares the administrative and academic aspects of both programs, as described in this document.

The Program Director is appointed by the Dean of the Sanford School of Medicine and oversees all aspects of the program. Assisting the Program Director is the Associate Dean for Medical Student Affairs and the Dean of Biomedical and Translational Sciences. Together, they form the Program Advisory Committee. The Associate Dean of Medical Student Affairs is responsible for the Physician-Scientist student's progress during the medical training program (Pillars 1, 2, and 3), and the Dean of Biomedical and Translational Sciences is responsible for the Physician-Scientist student's progress during the research (PhD) training program. Administrative support for the program is provided jointly by Medical Student Affairs during the medical training period and by the Division of Biomedical and Translational Sciences (BaTS) during the research phase, but is primarily provided by the MD/PhD Education Coordinator.

The Physician-Scientist Program Advisory Committee meets periodically to discuss all aspects of the program.

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III. Admissions

Oversight of the admissions process is under the direction of the Assistant Dean of Medical Student Affairs. Admission to the Physician-Scientist program requires an application to the Sanford School of Medicine through the AMCAS system and submission of all supplemental material required by the Sanford School of Medicine. Applications to the Physician-Scientist Program are reviewed by the Program Advisory Committee to determine if the applicant has the necessary credentials for interview and admission to the Physician-Scientist Program. The members of the Physician-Scientist Admissions Standing Committee will conduct interviews for applicants. Typically, interviews with all members of the Physician-Scientist Admissions Standing Committee will occur during a single one-day visit by the applicant. Acceptance to the Physician-Scientist program is based on the recommendation of the Physician-Scientist Admissions Standing Committee to the Sanford School of Medicine Admissions Committee and the BaTS Graduate Committee.

IV. Program Faculty

Numerous faculty members will be involved in the training of the physician-scientist students. Academic faculty will mainly hold academic appointments in one of the academic units at the University of South Dakota Sanford School of Medicine. Research faculty serving the Physician-Scientist program as either mentors or research advisors must hold appointments (primary or cross) in the Division of Biomedical and Translational Sciences or another unit of the Sanford School of Medicine and must be Graduate Faculty approved by The University of South Dakota Graduate School. Sanford School of Medicine faculty seeking Graduate Faculty Status must submit documentation of the criteria below for Graduate Faculty Status to the Division of Biomedical and Translational Sciences Graduate Committee (biomed@usd.edu). Requests meeting the criteria of the Division will be recommended for Graduate Faculty Status to the University's Graduate Council. Graduate Faculty Status eligibility is reviewed every five years.

Criteria for Graduate Faculty Status Recommendations in the Division of Biomedical and Translational Sciences.

- Primary or cross-appointment to Biomedical and Translational Sciences with the rank of Assistant, Associate, or Full Professor, or primary appointment in a Department of the Sanford School of Medicine
- Terminal degree in an area of relevance to Biomedical Sciences
- Majority of the following criteria (documentation required)
    - an ongoing active research program
    - publications in referred journals
    - participation in scientific meetings
    - membership and participation in scientific societies
    - acquisition of extramural research funding
    - Intra- and extra-mural seminar presentations

V. The Student-Mentor Relationship

Physician-Scientist students will select a research mentor before the completion of their second year of medical coursework. Students are encouraged to engage in research laboratory rotations during the summer before the beginning of the Physician-Scientist academic program and between the first and second years of the academic program. The selection of research laboratories for a rotation is made by the student in consultation with the Program Director based on the student's area of scientific interest. This rotation experience allows the student to acquire first-hand experience in their area of research interest and to help the student begin to identify potential research mentors.

Action Item: The Physician-Scientist student will select their research mentor by the end of the preclinical coursework. This selection is to be reported to the MD/PhD Education Coordinator.

Research mentors are responsible for assisting the Physician-Scientist student with focusing their research interests on a dissertation project that should be completed within 3 years. The relationship that exists between the student and research mentor is one of the most important relationships the student will enter into during the Physician-Scientist Program. This relationship is outlined in the AAMC's "Compact Between Biomedical Graduate Students and Their Research Advisors" (https://www.aamc.org/what-we-do/mission-areas/medical-research/grad-compact). The Sanford School of Medicine's Physician-Scientist Program

adopts this Compact as a model philosophy describing the student-research mentor relationship.

Expectations of MD/PhD Students

- The student has primary responsibility for the successful completion of the Physician-Scientist degree. The student will be committed to their medical/graduate education and will demonstrate this through efforts in the classroom and the research laboratory. The student will maintain a high level of professionalism, self-motivation, engagement, scientific curiosity, and ethical standards.
- The student will meet regularly with the research mentor and provide the mentor with updates on the progress and results of the student's activities and experiments.
- The student will work with their research mentor to develop a dissertation project. This will include establishing a timeline for each phase of the work and the student will strive to meet the established deadlines.
- The student will work with their research mentor to select a Dissertation Advisory Committee. The student will commit to meeting with this committee at least semi-annually and will be responsive to the advice and constructive criticism from the committee.
- The student will be knowledgeable of the policies and requirements of the graduate program, graduate school, and institution.
- The student will attend and participate in laboratory meetings, seminars, and journal clubs that are part of the Physician-Scientist educational program.
- The student will comply with all institutional policies, including academic program milestones. The student will comply with both the letter and spirit of all institutional safe laboratory practices and animal-use and human research policies at the institution.
- The student will participate in Sanford School of Medicine's Responsible Conduct of Biomedical Research Training Program and practice those guidelines in conducting dissertation research.
- The student will be a good lab citizen and agree to take part in shared laboratory responsibilities and will use laboratory resources carefully and frugally. The student will maintain a safe and clean laboratory space and will be respectful of, tolerant of, and work collegially with all laboratory personnel.
- The student will maintain a detailed, organized, and accurate laboratory notebook. The student will be aware that their original notebooks and all tangible research data are the property of the University of South Dakota Sanford School of Medicine. With the permission of the University and the research mentor, they may be able to take a copy of the notebooks with them after completing the dissertation.
- The student will discuss policies on work hours, sick leave, and vacation with the research mentor and will consult with the research mentor and notify fellow lab members in advance of any planned absences.
- The student will discuss policies on authorship and attendance at professional meetings with the research mentor and will work with the research mentor to submit all relevant research results that are ready for publication promptly before graduation.
- The student acknowledges that it is primarily their responsibility to develop a physician-scientist career following the completion of the degree. The student will seek guidance from their research mentor, clinical faculty advisors, career-counseling services of Sanford School of Medicine, and any other resources available for advice on career plans.

Expectations of Research Mentors

- Research mentors will be committed to the life-long mentoring of the physician-scientist student. The research mentor is committed to the education and training of the physician-scientist student as a future member of the scientific community.
- The research mentor will be committed to the research project of the physician-scientist student. The research mentor will help to plan and direct the physician-scientist student's project, set reasonable and attainable goals, and establish a timeline for the completion of the project. Research mentors recognize the possibility of conflicts between the interests of externally funded research programs and those of the physician-scientist student and will not let these interfere with the student's pursuit of their dissertation research.
- The research mentor will be committed to meeting one-on-one with the student regularly.
- The research mentor will be committed to providing financial resources for the physician-scientist student as appropriate or according to the institution's guidelines, for him/her to conduct dissertation research.
- The research mentor will be knowledgeable about and guide the physician-scientist student through the requirements and deadlines of the physician-scientist program as well as those of the institution, including teaching requirements and human resources guidelines.
- The research mentor will help the physician-scientist student select a dissertation advisory committee. The research mentor will ensure that this committee meets semi-annually to review the physician-scientist student's progress and that a written record of this review, signed by the student and the research mentor, is provided to the student and the Division's Graduate Committee.
- The research mentor will lead by example and facilitate the training of the physician-scientist student in complementary skills needed to be a successful scientist, such as oral and written communication skills, grant writing, lab management, animal and human research policies, ethical conduct of research, and scientific professionalism. The research mentor will encourage the student to seek opportunities in teaching if not required by the student's program.
- The research mentor will expect the physician-scientist student to share common laboratory responsibilities and utilize resources carefully and frugally.
- The research mentor will not require the physician-scientist student to perform tasks that are unrelated to their training program and professional development.
- The research mentor will discuss authorship policies regarding papers with the physician-scientist student. The research mentor will acknowledge the physician-scientist student's scientific contributions to the work in the laboratory and will work with the physician-scientist student to publish their work promptly before the student's graduation.
- The research mentor will discuss intellectual policy issues with the student concerning disclosure, patent rights, and publishing research discoveries.
- The research mentor will encourage the physician-scientist student to attend scientific/professional meetings and make an effort to secure and facilitate funding for such activities.
- The research mentor will provide career advice and assist in finding a position for the physician-scientist student following their graduation. The research mentor will

provide honest letters of recommendation for the physician-scientists' next phase of professional development. The research mentor will also be accessible to give advice and feedback on career goals.

- The research mentor will provide for every physician-scientist student under their supervision an environment that is intellectually stimulating, emotionally supportive, safe, and free of harassment.
- Throughout the physician-scientist student's time in the research mentor's laboratory, the research mentor will be supportive, equitable, accessible, encouraging, and respectful. The research mentor will foster the physician-scientist student's professional confidence and encourage critical thinking, skepticism, and creativity, and assist them in writing grants.

VI. The Physician-Scientist Dissertation Advisory Committee

In addition to the student's Research mentor, a Dissertation Advisory Committee guides each Physician-Scientist student. The Committee should be formed no later than the end of the second semester of the first year of the student's research experience. In addition to the Research mentor, who chairs the Committee, at least four additional Graduate Faculty will assist in the direction of the Physician-Scientist student's research. At least one member must be an MD-degreed faculty member, one member must be from outside the student's primary area of research interest, and at least one member must be based in Vermillion. A single member of the Dissertation Advisory Committee may serve as the MD, the 'outside' member, and/or the Vermillion member, although they count only as a single member. The membership of the Committee should be selected in such a manner as to provide scientific focus and technical expertise relevant to the physician-scientist student's research. The Committee is to support and complement the research mentor in fulfilling their expectations as detailed above.

The members of the Dissertation Advisory Committee must be reported to the Physician-Scientist Program Advisory Committee. The Physician-Scientist Program Advisory Committee will review the proposed membership for compliance with the guidelines and expectations. The Physician-Scientist Program Advisory Committee has the authority to require changes in the membership of the student's Dissertation Advisory Committee if determined to be in the best interests of the student. The student will be notified by the Physician-Scientist Program Advisory Committee of acceptance of the membership of the Dissertation Advisory Committee or of any changes required.

Action Item: The Physician-Scientist Dissertation Advisory Committee membership must be reported to the Physician-Scientist Program Advisory Committee at the end of the second semester of the first year of the student's research phase. All members must hold Graduate Faculty status at USD, and the committee must have at least one MD member, one outside member, and one member whose primary base of operations is Vermillion. One person may represent multiple roles, but the committee must have at least five members.

The Dissertation Advisory Committee will meet no less than twice annually to review the Physician-Scientist student's research progress. A written record of each meeting of the Dissertation Advisory Committee shall be signed by the student and the Research mentor, submitted to the Physician-Scientist Program Advisory Committee and placed in the student's academic file. The Physician-Scientist Program Advisory Committee will require the meeting summaries no later than July 15 and December 15 of each year. The Physician-Scientist

Program Advisory Committee may recommend or require changes in the students' program to ensure adequate and timely progress toward the degree. The student and mentor will be informed in writing of the results of the Physician-Scientist Program Advisory Committee's review, and a copy of the review will become part of the student's permanent record. The student may review the evaluation with the Chair of the Physician-Scientist Advisory Committee during normal working hours.

The primary academic file for each Physician-Scientist student shall be maintained in the Office of Medical Student Affairs. Other official files may be found in the Division's Graduate Program office, the USD Graduate School, or the USD Registrar's office. However, the Office of Medical Student Affairs shall have the most complete academic file for students relating to the Physician-Scientist program.

Action Item: The written record of the twice-annual meeting of the Dissertation Advisory Committee, signed by the student and the research mentor, is to be submitted to the Physician-Scientist Program Advisory Committee no later than July 15 and December 15 of each year.

VII. Curriculum

The curriculum of the Physician-Scientists is the result of a collaborative design involving elements of the MD and the PhD curricular models. Governance of the Physician-Scientist Program is shared jointly by the Sanford School of Medicine's Medical Education Committee and The University of South Dakota's Graduate Council.

The Physician-Scientist curriculum includes the preclerkship coursework, aka Pillar 1, of the MD-only curriculum. The middle phase begins after the Physician-Scientist student successfully completes the United States Medical Licensure Examination – Step 1. This phase represents the research years of the program. While this part of the program is expected to take three years, the nature of research is such that students may require more or less time to complete their dissertation project. At the end of the research phase, the student is expected to defend the written dissertation. The final phase of the Physician-Scientist program is the clerkship coursework (Pillar 2 and 3) required for the MD degree. Although students will be encouraged to continue their research interests in Pillars 2 and 3, a research experience during Pillar 2 or 3 may not be critical to the completion of the Physician-Scientist program.
MD/PhD students meet the Pillar 2 Scholarly Activities Course requirement through the PhD component of the program. MD/PhD students may opt to enroll in the Scholarly Activities course to support the development of an additional scholarly project. There are 34 other electives listed as the requirement for Pillar 3 (for the MD students this has been changed to 30 electives in Pillar 3 with 4 credits for the scholarly activities course in Pillar 2 so there is still the same total number of credits to graduate)

Pillar 1 Preclerkship Curriculum

Course Number	Course Name	Credit Hours
IMC 501	Medical Foundations 1	12
IMC 502	Medical Foundations 2	8
IMC 601	Skin-Musculoskeletal Systems	3

IMC 602	Nervous System	6
IMC 603	Blood/Lymph Systems	4
IMC 604	Gastrointestinal and Hepatobiliary Systems	4
IMC 605	Cardiovascular Systems	5
IMC 606	Respiratory System	4
IMC 607	Renal and Urinary Systems	4
IMC 608	Reproductive and Endocrine Systems	5
IMC503	Clinical Foundations: Patient Care, Skills and Service Learning I	2
IMC 609	Clinical Foundations: Patient Care, Skills and Service Learning II	2
IMC 610	Clinical Foundations: Patient Care, Skills and Service Learning III	2

- Physician-Scientist students must register and successfully complete Step 1 of the United States Medical Licensure Examination (USMLE) before entering the research phase of their program of study. MD-PhD students must pass Step 1 prior to starting the PhD phase on a similar timeline to the medical students. Students are encouraged to sit for the USMLE Step 1 examination per the SSOM USMLE Performance Policy. Students can request a delay of four weeks if needed, and if a student does not pass Step 1 by the beginning of March the student will need to take a leave of absence (LOA).

Action Item: Students must pass USMLE Step 1 to enter the research phase.

Research Phase Curriculum

Course Number	Course Name	Credit Hours (Approximately 50 credits)
CPHD 727	Responsible Conduct of Biomedical Research	2
CPHD 890	Seminar	1 each Fall and Spring semester
CPHD 898	Research	Up to 8 credits each Fall and Spring semester and up to 5 each Summer semester
	Electives – all must be relevant to the research project.	Varies

During the research phase of the Physician-Scientist Curriculum, it is important that students retain their clinical skills to ensure a successful and smooth transition to Pillar 2. It is also important for students to seek career advice about students' specialty areas. During the research phase, students will be required to obtain structured clinical experiences (Component 1; coordinated with Sioux Falls or Yankton Campuses as needed) and career advice (Component 2). These include three structured clinical experiences during the first year of the research phase, six structured clinical

experiences during the second year, and eight (8) structured clinical experiences during the remaining year(s) of the research phase, in addition to participating in career advising sessions regularly. The structured clinical experiences must be spaced out across the academic calendar with approximately one per 4 months for research year 1, one per 2 months for year 2, and one per 1.5 months for the remaining research year(s). These structured clinical experiences (Component 1) and the participation in career advising sessions (Component 2; see Appendix I for the format of Component 2 Annual Reports) will be formatively assessed. The MD/PhD Education Coordinator will work with the Sioux Falls Campus Education Coordinator to assign mentors to the students. The student and their mentor will then schedule the clinical experiences each year and send the list of dates to the MD/PhD Coordinator.

Action Item: During the research phase of the program, Physician-Scientist students are required to participate in structured clinical experiences and career advising sessions. Each student will be assigned a single mentor during their PhD years.

Clerkship Curriculum

Pillar 2 Curriculum[1](Class of 2022 and earlier)

Course Number	Course Name	Credit Hours
CLIN 701	Physical Diagnosis	1
PEDS 701	Pediatrics	3
OGYN 701	Obstetrics and Gynecology	4
SURG 701	Surgery	4
MEDC 701	Internal Medicine	4
PTRY 701	Psychiatry	3
NEUR 701	Neurology	2
FAMP 701	Family Medicine	4
IMC 701	Medical Knowledge	4
IMC 702	Patient Care	4
IMC 703	Professionalism	4
IMC 704	Interpersonal and Communication Skills	4
IMC 705	Practice-based Learning and Improvement	4
IMC 706	Systems-based Practice	3
RADI 701	Radiology	1
IMC 730	Friday Academy	3

Pillar 2 Curriculum (Class of 2023 and later)

Course Number	Course name	Credit hours
PEDS 713	Pediatrics clerkship I	2
OGYN 713	Obstetrics and Gynecology Clerkship I	2

[1] Consult with Medical Student Affairs for actual sequence of courses during pillars 2 and 3.

SURG 713	Surgery clerkship I	2
MEDC 713	Internal Medicine clerkship I	2
PTRY 713	Psychiatry clerkship I	1
NEUR 713	Neurology clerkship I	1
FAMP 713	Family Medicine clerkship I	2
IMC 715	Medical Knowledge I	2
IMC 705	Patient Care I	2
IMC 720	Professionalism I	2
IMC 700	Interpersonal and Communication Skills I	2
IMC 710	Practice-based learning and improvement I	2
IMC 725	Systems-based practice I	2
IMC 706	Patient Care II	2
IMC 721	Professionalism II	2
IMC 701	Interpersonal and Communication Skills II	2
IMC 711	Practice-based learning and improvement II	2
IMC 726	Systems-based practice II	2
PEDS 714	Pediatrics clerkship II	2
OGYN 714	Obstetrics and Gynecology clerkship II	2
SURG 714	Surgery clerkship II	2
MEDC 714	Internal Medicine clerkship II	2
PTRY 714	Psychiatry clerkship II	2
NEUR 714	Neurology clerkship II	1
FAMP 714	Family Medicine clerkship II	2
RADI 715	Radiology	1
IMC 730	Friday Academy	1
NEUR 705	Clinical Ethics	1
IMC 735	Cultural Immersion Experience	1

Pillar 3 Curriculum

Course Number	Course Name	Credit Hours
FAMP 810	Rural Family Medicine	4
FAMP 823	Emergency Medicine	3
SURG 801	Surgery Specialties	4
	Sub-Internship in Family Medicine, Internal Medicine, Psychiatry, or Pediatrics is required	4
	Transition to Residency	1
	Professional Development Course	1
	Other Electives	34

VIII. Work Expectation

During the Physician-Scientist training program, students will follow the MD program calendars for the preclerkship (Pillar 1) and clerkship (Pillars 2 and 3) phases, and the general USD academic calendar for the research phase. During the research phase, the academic calendar is a 12-month calendar with students enrolling in coursework or research in the

Spring, Summer, and Fall semesters. In general, the research phase of training follows the leave policies of faculty and staff more closely than those of students. Students are expected to be present in the classroom or research laboratory for the normal five-day/40-hour workweek. The typical work week does not include study time, which is normally seen as being in addition to the 40 hours of the standard work week. Students seeking vacation during the normal program of study should coordinate leave requests with their faculty mentor. There is no scheduled vacation time in the research calendar. Faculty and students are expected to negotiate work expectations early in the research phase to avoid misunderstandings of expectations.

IX. Research Proposal

A written preliminary dissertation proposal will be formulated by the student and submitted to the mentor and the Dissertation Advisory Committee for approval before the start of the third academic semester of the Research Phase. A copy of the approved research proposal is to be submitted to the Physician-Scientist Program Advisory Committee for placement in the Student's Personal File. The research proposal is to be prepared using the format of a research application template from a national funding agency such as the National Institutes of Health. The research project should be formulated in such a way that the research, preparation, and defense of the dissertation can be completed within a reasonable period, ideally three years. Furthermore, the project must be of sufficient merit to warrant publication in a refereed journal.

Action Item: The written dissertation proposal must be approved by the Dissertation Advisory Committee before the third academic semester of the Research Phase. A copy of the approved research proposal is to be submitted to the Physician-Scientist Program Advisory Committee.

X. Dissertation Defense

At the end of the research phase, the student must present an acceptable dissertation from within the major field. The dissertation should demonstrate that the student has technical competence in the field and has done independent research. The results must add to, modify what was previously known, or present a significant interpretation of the subject based upon the original investigation.

The Dissertation Advisory Committee conducts the final dissertation defense. Completed copies of the dissertation must be distributed to the Dissertation Advisory Committee at least ten working days before the examination. An additional copy of the dissertation must be on file in the Division to allow non-Committee members to review the dissertation before the defense. It is the student's responsibility to furnish these copies. The mentor, who normally serves as Chair of the Committee, establishes the time and place of the examination. Immediately before the dissertation defense, the student will present a formal seminar open to the public describing the dissertation project. The announcement of this public seminar shall include an abstract of the dissertation. This seminar, an overview of the dissertation project, should not exceed one hour in length. After the presentation, the Dissertation Advisory

Committee will orally examine the student regarding the portion of the candidate's field of specialization in which the dissertation falls (although the examination need not be confined exclusively to the subject matter of the dissertation). Participation in this examination by non-Dissertation Advisory Committee members shall require the consent of the Chair of the Dissertation Advisory Committee. The decision of whether the student has defended the dissertation satisfactorily is the decision of the Dissertation Advisory Committee. No student shall be considered to have passed the dissertation defense with more than one dissenting vote.

At least one manuscript from the dissertation project with the student as a first author must be submitted before the student may defend the dissertation program. Copies of all manuscripts (published, in press, or in review) shall be appended to the dissertation for review and approval by the Dissertation Advisory Committee. Under extraordinary circumstances, the Physician-Scientist Advisory Committee can authorize a waiver of this requirement.

Action Item: The Physician-Scientist student shall provide each member of the Dissertation Advisory Committee and the Division of Biomedical and Translational Sciences with a copy of the written Dissertation at least ten working days before the scheduled Dissertation presentation and defense. The scheduling of the Dissertation presentation and defense is the responsibility of the Dissertation Advisor.

Action Item: The Dissertation Advisory Committee determines whether the student has successfully presented and defended the Dissertation project. More than one dissenting vote from the Committee constitutes a failure. ***The outcome of this deliberation, including any stipulations for completion made by the Committee, will be reported in writing to the Physician-Scientist Program Advisory Committee. The Dissertation Mentor and the Student will sign this report. This report must be submitted to the Physician-Scientist Advisory Committee before the student transitions to the clinical phase of training. If a student obtains a conditional pass for their dissertation defense, the conditions must be met before entering Pillar 2 orientation in early February***

Action Item: At least one manuscript from the dissertation project with the student as first author or co-first author must be submitted before the student may defend the dissertation. ***The Dissertation Advisor must confirm this to the Physician-Scientist Program Advisory Committee before the dissertation defense is scheduled.***

Action Item: At least one original research article in a peer-reviewed journal is expected to be published before the student graduates from the Physician-Scientist program.

XI. Academic and Professional Standards

The Physician-Scientist program is a complex program of study that encompasses many parts of the policies and procedures of the MD and the PhD programs. Students are encouraged to become familiar with the "Medical Student Affairs Handbook" as these will be the dominant guidelines during the preclinical and clinical coursework periods of years 1, 2, 6, and 7. *Students in the Physician-Scientist program are provided financial aid services, personal and mental health counseling, and registration documentation through the Office of Medical Student Affairs for the entire program of study*. Students are encouraged to become familiar with the "Doctor of Philosophy Graduate Program Guidelines" (sent separately) as these will be the dominant guidelines during the research phase of their training. For both documents,

there will be circumstances where the Physician-Scientist program differs, as outlined in this document.

The Physician-Scientist program requires that students maintain an acceptable level of academic performance in the MD (pass/fail) and PhD phases of the curriculum. No grade below a "C" is permitted and students must have a cumulative (inclusive of MD and PhD coursework) grade point average of 3.0 ("B") or higher at the time of graduation. Students who do not achieve an acceptable level of academic performance will be subject to review by the Physician-Scientist Program Advisory Committee and, in the case of performance in MD-specific courses, referred to the Sanford School of Medicine's Student Progress and Conduct Committee. Either committee may recommend disciplinary measures that include but are not limited to the following: 1) dismissal from the Physician-Scientist Program; 2) continuation in the Physician-Scientist Program on Academic Probation; and/or 3) successful completion of additional or remedial work. Non-dismissal actions of the Physician-Scientist Program Advisory Committee can be appealed to the University of South Dakota's Dean of the Graduate School, while the non-dismissal actions of the Student Progress and Conduct Committee can be appealed to the Dean of the Sanford School of Medicine. *Recommendations of dismissal will automatically be forwarded to both the Dean of the Sanford School of Medicine and the Graduate Dean of USD for joint consideration. Based on the elements underlying the dismissal recommendation, it shall be the privilege of either Dean to defer to the other in considering the recommendation.*

Action Item: Students must have an overall grade point average of 3.0 or higher at the time of graduation.

Action Item: No course grade below a "C" is permitted.

Physician-Scientist students must take and pass the United States Medical Licensure Examination Step 1 prior to beginning the research phase of their training. Students failing this exam may be asked to take a leave of absence (without fellowship or assistantship) from the research phase to allow them to remediate their preclinical studies, retake, and pass the Step 1 examination. Any deviation from this policy will require permission from the MD/PhD Advisory Committee.

Action Item: The Physician-Scientist student must successfully complete Pillar 1 and Step 1 before entering the research phase of their program. *The Dean of Medical Student Affairs will notify the Physician-Scientist Program Advisory Committee of successful completion.*

In addition to the Academic Standards of the Physician-Scientist Program, students are expected to follow the standards of professionalism throughout their training program. Students who do not present an acceptable level of professionalism will be subject to review by the Physician-Scientist Program Advisory Committee and, in the case of performance in MD-specific courses, referred to the Sanford School of Medicine's Student Progress and Conduct Committee. Either committee may recommend disciplinary measures that include, but are not limited to, the following: 1) dismissal from the Physician-Scientist Program; 2) continuation in the Physician-Scientist Program on Academic Probation; and/or 3) successful completion of additional or remedial work. Non-dismissal actions of the Physician-Scientist Program Advisory Committee can be appealed to the University of South Dakota's Dean of the Graduate School, while the non-dismissal actions of the Student Progress and Conduct Committee can be appealed to the Dean of the Sanford School of Medicine. Physician-Scientist students may be referred to the Sanford School of Medicine's Student Progress and

Conduct Committee at any time in their training (MD or PhD Phases) for violations of professionalism that may interfere with their practice of medicine later, even if the behavior/action/performance occurred during the PhD phase of their training and would not normally result in a negative outcome for the PhD degree. *Recommendations of dismissal will automatically be forwarded to both the Dean of the Sanford School of Medicine and the Graduate Dean of USD for joint consideration. Based on the elements underlying the dismissal recommendation, it shall be the privilege of either Dean to defer to the other in considering the recommendation.*

Dismissal from the Physician-Scientist Program for academic, professional or other reasons not listed in this document will constitute dismissal from both (MD and PhD) elements of the program. Voluntary resignation from the Physician-Scientist Program will constitute resignation from both (MD and PhD) elements of the program. Continuation in either element of the program will require readmission to the respective Admissions Office and should never be assumed automatically. Students who leave the Physician-Scientist Program and gain admission to the MD program are required to reimburse the SD Board of Regents for any reduced tuition benefits the student received while in the Physician-Scientist Program (see Financial Assistance below).

XII. Financial Assistance

Students enrolled in the Physician-Scientist Program receive a scholarship from the Sanford School of Medicine in preclinical (Pillar 1) and Clinical (Pillar 2 and 3) of the program and research assistantships from their research mentors in the research phase. The scholarship/assistantship is provided as long as the student remains in good academic and professional standing and is making satisfactory progress toward the degree. The Scholarship and the Assistantships have a value of $31,500/year (2026-2027 rates) and a reduction to graduate assistant tuition rates. The reduced tuition rate is a substantial reduction over medical school tuition rates. The SD Board of Regents requires all Physician-Scientist students to sign an agreement that should they leave the Physician-Scientist program and gain admission to the MD program, the difference between the two tuition rates will be reimbursed to the Board of Regents for any course accepted for advanced standing placement to the MD program of study.
Students on academic or professional probation are not eligible for scholarships or assistantships or the reduced tuition rate.

Physician-Scientist Students are eligible for other sources of financial aid. Financial aid may vary with the academic phase (MD or PhD) of the student. The Financial Aid Specialist of the Sanford School of Medicine can provide information about these other sources of financial aid.

There are tax consequences that differ between the scholarship and the assistantship. The Financial Aid Specialist of the School of Medicine may be able to provide some guidance in this matter, but the student should consult with a tax specialist to fully understand the differences between these two funding mechanisms.

Physician-Scientist students should consider the training program as a full-time responsibility. Therefore, they are not permitted to have outside jobs. Exceptions to this policy can be granted by concurrent agreement of both the Director of the Physician-Scientist Program and the Associate Dean of Medical Student Affairs.

XIII. Graduation

One (1) year prior to graduation, you will start receiving emails from the BaTS Graduate and Education Manager and the Graduate School. Please make sure that you are checking your USD emails for these notices. You will want to keep a list of updated emails from your committee as they will need to sign off on these forms as well.

This website will also help keep you updated with deadlines and forms you will need to fill out:
https://my.usd.edu/uPortal/p/graduate-school.ctf3/max/render.uP?pP_tab=79051-graduate-student-responsibilities

You attend 2 graduation ceremonies. Friday before the University's ceremony is the MD hooding. You may have an MD hood at that ceremony. Saturday's ceremony on USD's Vermillion Campus, you should wear your MD hood and will be hooded for your PhD by a PhD who has USD faculty status. Detailed instructions for this will be sent to you the week prior to the ceremony, and in the months leading up to the ceremony, you will be asked to provide the names of those who are hooding you.

Degrees are conferred by June 24th, and diplomas are usually sent out in late July or early August. If you need degree verification prior to that, a letter verifying your degree can be sent by the graduate registrar.

XIV. Student Support Resources

The Graduate School maintains a page outlining resources available to all graduate students at USD. The page can be found at Graduate Student Resources | University of South Dakota. Included on this resource page are links to various Graduate School policies, forms, and deadlines, among other useful links. Students are advised to visit the Graduate Student Responsibilities and Deadlines page within the USD portal regularly. To assist students, this document includes a checklist for them to follow. It is the student's responsibility to adhere to USD and Division deadlines and policies.

XV. Grievances And Complaints

The grievance procedure of the Division is in keeping with the policy of the Graduate School and the SD-BOR. Refer to the USD portal for the current policy on Grievance Procedures: (https://my.usd.edu/uPortal/p/graduate-school.ctf4/max/render.uP?tab=39482-graduate-school-form).
There are forms relating to human rights complaint procedures, student academic misconduct, academic appeals, student code of conduct, and academic affairs. Students should carefully review the information when selecting a grievance path. Note there are specific time windows that must be followed for many of the grievance processes. Failure to start a grievance within the prescribed time frame will result in automatic denial of the grievance.

XVI. Lee Medicine (USD Building UMS) Access

Access to the Lee Medicine building and many interior rooms requires a USD-issued ID. Each student's access to Lee Medicine spaces will be specific to their needs. Students

will be given key(s) that will permit them access to specific BaTS laboratories. The University Police Department (UPD) issues keys upon request by the Division. A fee will be required before the key can be issued. Key(s) should be returned when a student's association with the Division is at an end. Please notify the Division if key(s) are lost. The cost to replace lost keys or USD IDs is paid by the student.

XVII. Nondiscrimination Policy

In accordance with the South Dakota Board of Regents Policy 1:19, the institutions under the jurisdiction of the Board of Regents shall offer equal opportunities in employment and for access to and participation in educational, extension, and other institutional services to all persons qualified by academic preparation, experience, and ability for the various levels of employment or academic program or other institutional service, without discrimination based on sex, race, color, creed, national origin, ancestry, citizenship, gender, gender identification, transgender, sexual orientation, religion, age, disability, genetic information or veteran status or any other status that may become protected under law against discrimination. The Board reaffirms its commitment to the objectives of affirmative action, equal opportunity, and non-discrimination in accordance with state and federal law. Redress for alleged violations of those laws may be pursued at law or through the procedures established by the provisions of 1:18 of this policy.

Director, Equal Opportunity and Chief Title IX Coordinator: 205 Slagle Hall, Phone: 605-658-3665, E-Mail: TitleIX@usd.edu.

Office of Accessibility: ID Weeks Library #103; Phone: 605-658-3745; E-Mail: accessibility@usd.edu

Frequently Asked Questions

- **Class Ranking – do we stay ranked with the class we enter with or the class we graduate with? How do we get ranked with no GPA (Pass/Fail)?**
  An unofficial class rank will be calculated after Pillar 1 with the class that you were with during Pillar 1. Since Pillar 1 is P/F- we use a weighted percentage in each course depending on the number of credit hours in each course. An official Class rank will again be calculated during Pillar 3. This will be calculated based on the second semester of Pillar 2 GPA (since 1st semester of Pillar 2 is P/F and is formative) and Pillar 3 courses, PhD GPA is not included in the final class ranking. This will be calculated with the class that you graduate with.
- **Can we get a breakdown of costs, when first and last paychecks should be when on scholarship/stipend, how resident and non-resident is, decided, and financial aid?**
  - MD/PhD students are already getting notified by email after the MD/PhD budgets are determined. This typically happens at the end of April/first part of May after the Board of Regents sets the tuition and fees for the upcoming year. Each class is mailed the budget. It is also listed on the MSA D2L site

- During admission interview and when starting the program, students are informed of financial aid and what years they will be on scholarship vs. stipend but over the 7 years. A document will be created as a guideline for which type of aid students will receive when it switches from scholarship to stipend and vice versa.
- Resident vs Non-resident is determined by their AMCAS application. If they apply as a non-resident they pay the Non-Resident Graduate Assistant rate. If Resident they pay the Resident Graduate Assistant rate. For current rates please go to: https://www.usd.edu/Admissions-and-Aid/Tuition-and-Costs/Graduate-Cost-of-Attendance/Graduate-Tuition-and-Costs-Detailed
- Financial aid, Current Scholarship/Stipend amount is $31,500 per year. While the scholarship and stipend cover a majority of the Cost of Attendance it doesn't necessarily cover everything. Students are allowed to take out loans if needed to cover these additional needs.

- **When do we get our first/last check and what is the amount and pay date?**
  Pay periods run from the 22nd of one month to the 21st of the next month. Your first paystub upon transitioning to the PhD portion starts on December 22nd, goes to January 21st and you will get paid your first check at the end of January. The amount is $2625 and you get paid the last working day of every month. Your final paycheck for your PhD time will stop on December 21st of the year you defend and you will receive your final check on the last day of December.
- **Should they or should they not get the survey from Financial Aid Office in MSA?**
  As we moved to electronic financial aid packets this year I emailed all the packets out on the MDSA(class) listserves. Part of the packet has a link to a survey to complete regarding scholarship criteria so that students can check what they might be eligible for. It probably is not necessary for them to complete this because they already receive $31,500 of scholarship dollars so they probably won't receive any more.
- **How will we receive our Step One Results?**
  Paula Hawks and/or Jacob Woodbury will email them about it and can also work with the students on studying if they need resources.
- **Whom do I tell if I need to extend my time in my PhD years?**
  Please tell Dr. Wang and Wendy Pederson as soon as possible
- **When should I take my Step One Exam?**
  We encourage students to take their exams in January so they can get the results and be fully in the lab by February, but no later than early March

B***enchmarks of the Program***

Communication with the Physician-Scientist Program Advisory Committee can be done through email to Wendy.Pederson@usd.edu.

Preclinical (Pillar 1) Phase	
	Must Pass all courses (Pass/Fail)
	Meet with Program Director (Dr. Xuejun Wang) during Medical Foundations II (before December 15) for annual review of progress and submit report to Physician-Scientist Program Advisory Committee
	Meet with Program Director (Dr. Xuejun Wang) at start of Cardiovascular Systems (before July 15) for annual review of progress and submit report to Physician-Scientist Program Advisory Committee
	Select research project and mentor and notify Physician-Scientist Program Advisory Committee before start of Reproductive and Endocrine Systems.
	Meet with Program Director (Dr. Xuejun Wang) before end of Reproductive and Endocrine Systems (before December 15) for annual review of progress and submit report to Physician-Scientist Program Advisory Committee
	Successfully complete USMLE Step 1 Examination

Research Phase - Year 1 – Note that stipend should start in December, first check in January	
	Nominate Dissertation Advisory Committee to Physician-Scientist Program Advisory Committee before June 1 (Year 1). See handbook for guidelines.
	Maintain cumulative grade point average of 3.0 (No grade below C is permitted in Physician-Scientist program)
	Meet with Dissertation Advisory Committee before July 15 (Year 1) to complete and submit written progress report to Physician-Scientist Program Advisory Committee
	Meet with Dissertation Advisory Committee before December 15 (Year 1) and submit written progress report to Physician-Scientist Program Advisory Committee
	Prepare and successfully defend research proposal by December 31 (Year 1) and submit approved proposal to Physician-Scientist Program Advisory Committee

Research Phase - Year 2	
	Maintain cumulative grade point average of 3.0 (No grade below C is permitted in Physician-Scientist program)
	Meet with Dissertation Advisory Committee before July 15 (Year 2) to complete and submit written progress report to Physician-Scientist Program Advisory Committee
	Meet with Dissertation Advisory Committee before December 15 (Year 2) and submit written progress report to Physician-Scientist Program Advisory Committee
Research Phase - Final Year - Note that the stipend ends December 21, the last check for that in December	
	Maintain cumulative grade point average of 3.0 (No grade below C is permitted in Physician-Scientist program)
	Notify Medical Student Affairs of plan to enter Pillar 2 no later than July 1.

	Meet with Dissertation Advisory Committee before July 15 (Final) to complete and submit written progress report to Physician-Scientist Program Advisory Committee
	Meet with Dissertation Advisory Committee before December 15 (Final) and submit written progress report to Physician-Scientist Program Advisory Committee
	Prepare and submit at least one manuscript as first author to a peer-reviewed publication on your dissertation project
	Prepare a written dissertation and submit to Dissertation Advisory Committee and Physician-Scientist Program Advisory Committee at least ten working days before defense
	Present a public seminar on the dissertation project and successfully defend the Dissertation project to the Dissertation Advisory Committee – **Deadline December 15th**
	Written report signed by both the primary mentor and the student indicating the successful defense. If a conditional pass is given, any stipulation for pass must be received by the Physician-Scientist Program Advisory Committee and fully addressed before transition to Pillar 2 can be granted.

Clerkship (Pillar 2 and 3) Phase	
	Maintain cumulative grade point average of 3.0 (No grade below C is permitted in Physician-Scientist program)
	Meet with Dean of Medical Student Affairs before December 31 of each year for annual review of progress and submit written report to Physician-Scientist Program Advisory Committee
	Publish at least one manuscript as first author to a peer-reviewed publication on your dissertation project
	Complete PhD Program of Study, submit dissertation to ProQuest, and complete paperwork needed for graduation by February 1 of final year of training.

As a group, the students will meet with the Education Coordinator Quarterly.

Reminders will be sent out for registration, tuition, and graduation as well as letting you know when items sent to all students do not pertain to MD/PhD students.

There is $1000 of travel money available per student in the PhD years. Students should also work with their labs to make sure other funding is also available for travel to conferences. Then work with LeeMedTravel@usd.edu. Please reach out to the MD/PhD Education Coordinator for more information to use this fund.

There will be 2 orientations – 1 at the beginning of Pillar 1 – essentially meeting Wendy and Dr. Wang and 1 in November/December before going into PhD years to go over BaTS policies.

During the PhD years, Wendy will track your Clinic times and work with you and Arica for your additional clinic mentors if you wish to have more than Fam Med/Peds clinic time.

Appendix I

Annual Report Form for MD/PhD Student Clinical Experience Component 2

Student name	Year in PhD phase	Calendar year
Mentor name and degree(s)	Mentor e-mail address	Specialty
Mentor affiliation(s)		
Number of encounters	Total encountering hours during the year	
Topics covered (<300 words):		
Mentor signature	Student signature and date	