Master in Healthcare Quality and Patient Safety (MHQS)

STUDENT HANDBOOK

2021
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The Master of Healthcare Quality and Safety (MHQS) is housed within the Center for Healthcare Quality and Safety (CHIPS) and the Office of Master’s and Certificate Programs at the Perelman School of Medicine, University of Pennsylvania. The core missions of CHIPS are (i) to provide an intellectual home and core critical mass for individuals who lead quality and safety efforts in healthcare and (ii) to expand this critical mass by educating students, trainees, faculty, nurses, and other healthcare professionals in the science of quality improvement and patient safety work. One educational program to help achieve this goal is the MHQS program.

The rationale for the development of the MHQS program was to expand the spectrum and rigor of quality improvement and patient safety training by providing an educational curriculum to teach the fundamental knowledge, skills, and attitudes of the field.

The University of Pennsylvania is committed to maintaining the highest standards when training graduate students. The daily operations of the MHQS program are the responsibility of the CHIPS and MHQS educational staff and faculty under the direction of the Program Director Jennifer Myers, MD and co-director Kathy Shaw, MD MSCE.

**Program Goals**

The goal of the MHQS is to provide in-depth didactic instruction and hands-on experience to current healthcare professionals who aim to improve the quality and safety of healthcare, locally, regionally or nationally. MHQS students learn how to independently conceptualize and frame meaningful problems in healthcare quality and safety, design and conduct rigorous improvement projects, analyze and display the results, and sustain and/or disseminate their improvements.

The program will produce graduates who will be able to apply contemporary QI tools to relevant areas of healthcare and who are knowledgeable about the complex issues associated with leading healthcare improvement efforts. The MHQS program will also assist in the promotion of quality and safety as a discipline.

This program will prepare students to pursue careers in healthcare administration and leadership that may be broad (e.g. director of quality and safety for a healthcare system or hospital) or more focused (e.g. positions that oversee population health, health equity, patient safety, value-based care for a healthcare system, department, or organization). Some graduates will combine their clinical and/or academic careers with a focus on healthcare quality and safety leadership, others will go on to pure leadership positions.

**Program Objectives**

The primary objective is to produce a cadre of highly trained and sophisticated healthcare professionals who possess the requisite skills necessary to design and lead quality and safety efforts at the local, regional, and/or national level.
Accreditation Status

Prior to 2019, there was no national or international set of educational standards or accreditation body for graduate degree granting programs in healthcare quality and safety. Recently, the Commission on Accreditation of Healthcare Management Education (CAHME) collaborated with 11 leading universities offering graduate degree programs in quality and safety and the National Association of Healthcare Quality (NAHQ) to create a framework for academic program accreditation in healthcare quality and safety. The Penn MHQS program has incorporated all of the CAHME healthcare quality and safety competencies into their curriculum and coursework, is officially Certified through CAHME, and is in the process of gaining national accreditation. The table below outlines the relationship between the competencies and the required MHQS coursework.

<table>
<thead>
<tr>
<th>CAHME Competency Domain</th>
<th>Required Penn MHQS Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Safety and Error Science</td>
<td>HQS 650</td>
</tr>
<tr>
<td>2. Improvement Science and Quality Principles</td>
<td>HQS 612</td>
</tr>
<tr>
<td>3. Evidence-Based Practice</td>
<td>HQS 602, HQS 612</td>
</tr>
<tr>
<td>5. Communication</td>
<td>HPR 670, HQS 602, HQS 650</td>
</tr>
<tr>
<td>6. Health Informatics</td>
<td>HQS 602, HQS 650</td>
</tr>
<tr>
<td>7. Human Factors</td>
<td>HQS 650</td>
</tr>
<tr>
<td>8. Professionalism</td>
<td>All Coursework</td>
</tr>
<tr>
<td>9. Systems Thinking</td>
<td>HQS 601, HQS 612, HQS 650</td>
</tr>
<tr>
<td>10. Legal and Regulatory Issues</td>
<td>HQS 601, HQS 650</td>
</tr>
<tr>
<td>11. Interprofessional Collaborative Work</td>
<td>The majority of the coursework and capstone project experience is interprofessional</td>
</tr>
<tr>
<td>12. Patient and Family-Centered Engagement</td>
<td>HQS 601, HQS 602, HQS 650</td>
</tr>
</tbody>
</table>
Master of Healthcare Quality & Safety Degree Requirements

The MHQS degree is composed of 10 course units

7 core courses (6 c.u.)

1. HQS 601: Introduction to Healthcare Quality (1 c.u.)
2. HQS 612: Principles and Practice of Quality Improvement (1 c.u.)
3. HQS 603: Evaluating Quality Improvement and Patient Safety Programs (Previously Healthcare Quality Measurement) (1 c.u.)
4. HQS 650: Systems Thinking & Patient Safety (1 c.u.)
5. HPR 670: Healthcare Strategic Leadership & Business Acumen (1 c.u.)
6. HQS 602: Learning Health System Seminar Series (0.5 cu)
7. HQS 640: Coaching Quality Improvement Work (0.5 cu)

2 elective courses (2 c.u.)

2 capstone credits (2 c.u.)*

*for combined MSN (Nursing & Healthcare Administration major)-MHQS students, the capstone II credit will be replaced by the NURS655 Nursing Administration Practicum. MSN-MHQS students are required to complete all of the expectations outlined under the capstone description in this handbook as part of their participation in this course.

Description of Required Course Work HQS

601 Introduction to Healthcare Quality

This course provides a national perspective on the history and evolution of the US healthcare quality movement and the six components for high quality healthcare: safe, timely, effective, equitable, efficient, and patient-centered. Using a mix of local and national leaders in the field, the complexities of quality and the scientific basis for understanding the measurement of quality will be explored, including exposure to quality measures from a variety of organizations and measure comparison sites and the merging of quality outcomes with evolving reimbursement paradigms and models. The association between quality and safety and healthcare economics, regulation, accreditation, information technology, and population health will also be covered.

Instructor: David Horowitz MD, Neha Patel MD MS
Semester: Course usually offered summer term
Credit: 1.0 Course Unit (summer session)
HQS 612 Principles and Practice of Healthcare Quality Improvement

Healthcare delivery is complex and constantly changing. A primary mission of leading healthcare organizations is to advance the quality of patient care by striving to deliver care that is safe, effective, efficient, timely, cost effective, and patient-centered. The goal of this interprofessional course is to provide students with a broad overview of the principles and tools of quality improvement and patient safety in health care while also guiding them through the steps of developing a quality improvement project. It will provide a foundation for students or practicing clinicians who are interested in quality improvement and patient safety research, administration, or clinical applications. As part of this course, students will design and plan for a real quality improvement project in their area of interest within healthcare using the methods and tools taught in the course.

Instructors: Jennifer Myers MD, Heather Greysen RN PhD  
Semester: Course usually offered in fall term  
Also Offered As: NURS 612  
Credit: 1.0 Course Unit

HQS 603 : Evaluating Quality Improvement and Patient Safety Programs (Previously Healthcare Quality Measurement)

This course provides an overview of quantitative and qualitative methods for evaluating quality improvement and patient safety (QI/PS) efforts in healthcare. Through the use of assigned readings, discussion, and assignments, students will develop skills to critique evaluations of existing QI/PS projects and design a robust evaluation of a healthcare improvement initiative. Topics include the principles of good measurement, development of performance measures, intermediate and advanced concepts in statistical process control, and the research methods used in the evaluation of QI/PS interventions.

Instructor: April Taylor MS MHA  
Semester: Course usually offered in fall term  
Credit: 1.0 Course Unit

HQS 650 Systems Thinking in Patient Safety

This blended online/in-classroom graduate level course integrates principles of systems thinking with foundational concepts in patient safety. Utilizing complexity theories, students assess healthcare practices and identify factors that contribute to medical errors and impact patient safety. Using a clinical microsystem framework, learners assess a potential patient safety issue and create preventive systems. Lessons learned from the science of safety are utilized in developing strategies to enhance safe system redesign. Core competencies for all healthcare professionals are emphasized, content is applicable for all healthcare providers including, but not limited to, nurses, pharmacists, physicians, social workers and healthcare administrators, and may be taken as an elective by non-majors.

Instructors: Susan Keim RN PhD, Kathy Shaw, MD MSCE  
Semester: Course usually offered in spring term  
Also offered as: NURS 650  
Credit: 1.0 Course Unit
**HQS 602 Learning Health System Seminar Series**

This year long monthly seminar series will provide students with knowledge and skills in the learning healthcare system. Through lecture and interactive discussions with leaders across the University of Pennsylvania, students will expand their network of resources and collaborators for the learning healthcare system where they work.

Instructor: Srinath Adusumalli MD MSc  
Semester: Course usually offered in spring term (year-long course)  
Credit: 0.5 Course Units

**HPR 670 Health Care Strategic Leadership and Business Acumen**

The weeklong intensive course aims at developing essential business acumen and leadership skills required to thrive in a constantly changing health care ecosystem. Taught by invited faculty who have experience working with health care leaders, this course will focus on actionable knowledge in financial acumen, strategic decision making, innovation and building high-performance teams. Through interactive mixed-mode delivery methods, faculty will share tools and frameworks, always with a focus on how to apply them, both personally and within an organizational context. Prerequisite: Permission needed from Instructor.

Instructors: Guy David PhD, David Grande MD MPA  
Semester: Course usually offered summer term  
Credit: 1.0 Course Unit

**HQS 640 Coaching in Quality Improvement Work**

The purpose of this course is to provide participants with the skills and tools to successfully guide learners in experiential quality improvement (QI) work in healthcare while developing a network of educators with similar roles. Students will be placed into groups based upon their level of experience and confidence in teaching and advising learners in this field. Both groups will discuss topics such as QI project selection, using QI frameworks to structure teaching sessions, key organizational and team factors, providing feedback, common teacher and learner pitfalls in QI, and many others. This will be a blended course with two in- person workshops and monthly asynchronous online educational components with assignments.

Instructors: Elena Huang MD, Neha Patel MD MS  
Semester: Course usually offered in fall term (year-long Course)  
Credit: 0.5 Course Units

**HQS 990-NURS698: Quality Improvement Capstone I**

The purpose of the capstone quality improvement project is to provide students with the opportunity to lead and experience each of the 4 phases of quality improvement work: Define - Measure - Analyze - Improve. Students
will conduct their experiential quality improvement work under the guidance of an advisor with experience in
the field. The course will culminate with the student presenting a poster and oral presentation of their work to
the faculty and other students completing the course. HQS 612 – NURS 612 is a pre-requisite for this course.

Instructors: Jessica Hart MD, Patricia Macolino RN MSN
Semester: May be taken in fall or spring
Credit: 1.0 Course Units
Format: Independent Study

HQS 991-NURS696: Quality Improvement Capstone II

The purpose of the quality improvement capstone II course is to provide a culminating experience in the
masters program that requires the integration and application of knowledge attained in their coursework.
Students will build on the skills obtained in the capstone I while continuing to lead and experience cycles of
improvement work that will ideally enter the control phase. Students will be required to write a scholarly final
report as part of this course. HQS 612-NURS612 and HQS 990 are pre-requisites for this course.

Instructors: Jennifer Myers MD, Kathy Shaw MD MSCE
Semester: May be taken in fall or spring
Credit: 1.0 Course Unit
Format: Independent Study

Description of Elective Course Work

In addition to the required courses, students must enroll in two or more electives that total two course
units. These must be graduate level courses in an area of concentration that complements the student’s
future career plans in healthcare quality and safety. A list of complementary approved electives in
programs and schools at Penn outside of the MHQS is below. The student’s MHQS Advisor must approve
any non pre approved elective courses chosen by the student prior to course registration. Student must
provide advisor with a copy of the course syllabus. (see section on mentoring below) If approved, the
student must contact the course instructor to request permission to enroll in the elective. Once the
instructor grants permission, then the student must notify the MHQS administrative office who will
request that a "permit" be entered into SRS so the student is able to complete the elective registration.

Approved Electives

BMIN 501 Introduction to Biomedical and Health Informatics (1.0CU)
BMIN 507 Human Factors (0.5CU)
BMIN 509 Telehealth and mHealth Systems and Applications (1.0CU)
ESE 543 Human Systems Engineering (1.0CU)
HCIN 601 Health Care Operations (1.0CU)
HCIN 602 Behavioral Economics and Decision Making (1.0CU)
HCMG 203 Clinical Issues in Health Care Management: Doctors, Patients and Managers in Modern Society (1.0CU)

HCMG 841 Health Services System (1.0CU)

HPR 611 Implementation Science in Health and Health Care (1.0CU)

HPR 611 Summer Institute - Implementation Science in Health and Health Care (0.5CU)

NURS 573 Innovation in Health: Foundations of Design Thinking (1.0CU)

LAWM 513 Medical Liability and Negligence (1.0CU)

LAWM 530 Health Law and Policy Fundamentals (1.0CU)

Description of Capstone Course Work

Students are required to engage in a capstone project of their own design under the supervision of their program advisor and QI advisor. Both individuals will assist in helping the student identify a quality or safety problem or “gap” in their local healthcare system and design improvement work to close that gap. They will also assist the student in writing up the work in a scholarly fashion, using the Standards for Quality Improvement Reporting Excellence (SQUIRE) guidelines when appropriate. While the Capstone is performed longitudinally throughout the MHQS, students are required to designate two semesters as their capstone credits (HQS 990 and HQS 991). The capstone will consolidate the students’ knowledge in the field and provide an experience in presenting and writing about their work in a scholarly manner. See section on Capstone Project below.

MHQS Non-credit Academic Requirements

In addition to course work, students are required to participate in a series of non-credit programs intended to enrich their experience. These requirements include the following:

**Attendance at the newly admitted student webinar.** Upon admission, you will be invited to the newly admitted MHQS webinar during the summer you matriculate.

**Attendance at the Center for Healthcare Improvement and Patient Safety (CHIPS) Works-in-Progress Seminar Series.** The seminars take place once a month from September through June. The exact day of the week and time may vary from year to year. Students are required to attend a minimum of 10 seminars throughout the duration of their MHQS training.

**Prior to the start of any quality improvement activity,** all students are required to complete online HIPAA training. Students can access and complete the training via Knowledgelink: [http://knowledgelink.upenn.edu/](http://knowledgelink.upenn.edu/).

MHQS students should submit their capstone project work utilizing the QI IRB protocol at their respective healthcare institution. For example, if the capstone work is performed at CHOP, it should be
submitted to through the CHOP QI IRB pathway; if the capstone work is performed within Penn Medicine, it should be submitted through the UPenn QI IRB pathway.

If, in discussion with your program mentor or capstone advisor, you believe that your capstone project has elements of human subjects research, you must complete the CITI online human research training and certification program: [https://irb.upenn.edu/mission-institutional-review-board-irb/guidance/citi-training](https://irb.upenn.edu/mission-institutional-review-board-irb/guidance/citi-training)

### Example of a Full-Time Plan of Study

<table>
<thead>
<tr>
<th>Year</th>
<th>Summer</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HQS 601</td>
<td>HQS 612</td>
<td>HQS 650</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HQS 603</td>
<td>HQS 602</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HQS 990</td>
</tr>
<tr>
<td>2</td>
<td>HPR 670</td>
<td>HQS 640</td>
<td>HQS 991</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Elective 1</td>
<td>Elective 2</td>
</tr>
</tbody>
</table>

### Example of a Part-Time Plan of Study

<table>
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<tr>
<th>Year</th>
<th>Summer</th>
<th>Fall</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>HQS 601</td>
<td>HQS 612</td>
<td>HQS 650</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>2</td>
<td>HPR 670</td>
<td>HQS 603</td>
<td>HQS 602</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HQS 990</td>
<td></td>
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<tr>
<td>3</td>
<td></td>
<td>HQS 640</td>
<td>HQS 991</td>
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<tr>
<td></td>
<td></td>
<td>Elective 1</td>
<td>Elective 2</td>
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</tbody>
</table>
An essential component of the MHQS degree program is the mentoring program. Effective mentoring is critical not only for the capstone project but also for assisting the student in the ongoing developing of their professional career goals and plans. We recognize the importance of mentoring and therefore have put into place the following structure for each MHQS student.

**Role of the Program Advisor**

The program mentor will meet with the student upon matriculation into the program to discuss a preliminary study plan and assist students with initial course selections. They will continue to meet with the student longitudinally over the course of the program and also one-on-one, as needed, for course and career advising. The MHQS will assign the student’s primary program mentor.

**Role of the QI Capstone Advisor**

The capstone QI project advisor will assist the student in identifying a feasible capstone project; help them select among more than one idea for their capstone project; identify content experts to supplement their expertise; and advise the student on project development, project team composition, improvement idea implementation, and data analysis. The QI capstone advisor will be identified by the MHQS leadership in collaboration with the student.

If a student is having issues connecting with their QI capstone advisor or if the student does not believe that the individual is the right fit, the student should notify their to their Program Advisor.
The design and leadership of an improvement effort focused on one or more aspects of healthcare quality (safe, timely, effective, efficient, equitable, patient-centered) is an integral component of training for professionals who seek career advancement in healthcare quality and safety. The purpose of the capstone project is to provide the student with this experience in a supportive environment with ready access to resources and mentors.

The capstone provides hands-on experience in all aspects of designing and leading a quality improvement project in healthcare that includes all five phases of QI work: 1) Defining the problem or ‘gap’ in healthcare quality, 2) describing and measuring aspects of the current situation, 3) analyzing the root causes of the problem, 4) designing and testing, and analyzing improvement interventions, 5) and sustaining any gains. In addition, it is expected that the student will thoroughly search the medical literature related to this problem, define a family of quality measures (structure, process, outcome, balancing) relevant to their project; track and display these measures over time using appropriate statistical process control charts, and a conclusion and description of future directions.

The MHQS student is required to engage in a capstone project of their own design under the supervision of a program mentor and capstone advisor. In addition to designing the project, they will be responsible for leading an interdisciplinary capstone project team that will help them execute their project work. The size and membership of this team will vary based on the size and scope of their project. Their work will culminate in both an oral presentation to the MHQS program leadership and a scholarly written report that summarizes their work. Together, these capstone project components will provide a robust training experience to assist in their individual career advancement in the field of healthcare quality and safety.

Students will specify the focus of their capstone project during the first year of the program in consultation with their advisors. In the majority of cases, students will complete their capstone work in the healthcare institution where they work. Capstone projects may align with the day-to-day responsibilities of the student’s employment or may be in a new area of interest. They will use class material and assignments to assist in project development. The capstone project training component is conducted in an apprenticeship model where the student works under the supervision of program mentors and advisors who are qualified and experienced in this area. A suggested timeline for the capstone with milestones will be outlined for students.

Types of Acceptable Capstone Projects

The primary criterion for an acceptable capstone project is that it addresses one or more aspects of quality in the healthcare delivery system. A secondary criterion is that the topic be of importance not only to the student, but also to the stakeholders in their healthcare delivery system. Stakeholder prioritization and support are essential for the student to accomplish their capstone project goals. Feasibility and scholarly merit are other factors to consider when deliberating capstone project options. In general, it should be possible to complete the project during the two-four years of the program depending on whether the MHQS is pursued on a part-time or full-time basis.
Starting the Capstone Project

Students will begin the design process for their projects upon entering the program by considering a range of quality problems of interest. The initial process is focused on finding and refining a relevant clinical quality problem that is suitable and appropriate for a QI capstone project. During the foundational course, HQS 612 Principles and Practice of Quality Improvement, students will develop their QI project proposal while they learn how to design and conduct the early phases of a QI project.

In the process of investigating their quality problem, it is not uncommon for the student to discover that there is no quality problem, or that the problem is much smaller or much larger than they anticipated, and they therefore need to modify or completely change their capstone project. The program mentor has experience in these scenarios and will be available to assist the students in deciding how to proceed.

Evolution of the Capstone Project

Following the HQS 612 course, the student will design and test changes in the healthcare system that relate to their capstone project using iterative Plan-Do-Study-Act (Deming) cycles. Students’ time and effort in testing their first few change ideas while tracking relevant quality metrics will comprise the Capstone I Course.

What is the Difference Between the Quality Improvement Capstone I and Capstone II course?

The purpose of the QI Capstone I course is to demonstrate that the student has successfully experienced and led 4 of the 5 phases of QI work. These 4 phases are Define-Measure-Analyze-Improve. Specifically, they are expected to show evidence of at least two Plan-Do-Study-Act (or Deming) Cycles in their project work while tracking one or more quality metrics. The course will culminate with the student presenting a poster and oral presentation of their work to the faculty and other students completing the course.

The purpose of the QI Capstone II course is to provide a culminating experience in the masters program that integrates and applies all the knowledge attained through the coursework. It involves leading the ongoing monitoring and iterative improvements in the student's capstone project area. Successful completion of the Capstone 2 Course requires submission of a written report, utilizing the Standards for Quality Improvement Reporting Excellence (SQUIRE website link: http://www.squire-statement.org/).

Many students will utilize the same project during Capstone I and Capstone II in a longitudinal fashion. In other words, capstone II will build upon the work completed during Capstone I and allow students to go deeper into the project and into the final phase (control) of their work. However, occasionally, students may wish to utilize a different QI project for their Capstone II for a variety of reasons. In this situation, they must follow the procedures below.

Can Students Place out of Capstone I and take an elective instead?

Some students may wish to maximize their elective experiences in the program by taking 3 rather than 2 electives. The program recognizes that a small number of students may have led a QI project in their prior work experience. On a case-by-case basis, the Capstone 1 Course Directors will consider student requests to “place out” of the Capstone 1 course requirement and replace this requirement with a second elective in the program. Please see “Waiving the Capstone 1 Course Policy” in the Academic Policies section of this handbook for more details.
Procedures for Changing the Capstone Topic

The originally proposed capstone project will have been developed with careful guidance from the student's program advisor, QI capstone advisor, and other relevant stakeholders. As such, the project should be feasible from both an improvement and practical standpoint. Nonetheless, it is recognized that the initially proposed capstone project may not always be tenable for reasons of logistics, time, shifting healthcare system priorities, or other unforeseeable circumstances. Should it become impossible to complete the originally designed capstone, a student may request to change their capstone.

The following steps must be taken prior to changing the originally approved capstone project topic:

1) The reason for not completing the originally proposed project must be discussed with the student’s MHQS program advisor. This should be documented and forwarded to the MHQS program administrator for record keeping in the student’s file.
2) The above-mentioned individuals must all agree that the capstone project is not feasible or prudent to pursue.
3) The student must then propose an alternate capstone project to their program advisor and QI capstone advisor.

It is recognized that some students will be working on several projects in addition to their capstone project. Only one of these projects may be used as the student’s capstone project and this project must be developed under the guidance of the student’s MHQS advisors.

Role of the Program Advisor in the Master's Capstone

Along with the QI Capstone Advisor, the Program Advisor will assist the student in identifying a feasible capstone project; help them select among more than one idea for their capstone project; identify content experts to supplement their expertise; and advise the student on project development, project team composition, improvement idea testing and implementation, and data analysis. The Program Advisor is also responsible for ensuring that the student formulates and adheres to a timeline to complete the capstone project.

Role of the QI Capstone Advisor in the Master’s Capstone

Along with the Program Advisor, the QI capstone advisor will assist the student in identifying a feasible capstone project; help them select among more than one idea for their capstone project; identify content experts to supplement the mentor’s expertise; and advise the student on project development, project team composition, improvement idea implementation, and data analysis. Both the Program Advisor and the QI Capstone Advisor will review and grade the student’s final capstone II report (see below).
Conduct of the Capstone Project Work

The student will conduct all aspects of the capstone project, typically in collaboration with a local quality/safety project team. The formation and leadership of the quality/safety project team is an important skill for success in this field.

In circumstances where the amount of work required exceeds what could be reasonably expected of a single student, it is appropriate to work with additional individuals in the collection of data and data entry. In such cases, the student is expected to oversee the process and provide sufficient monitoring to ensure that the quality of the data is not compromised. Once the data is collected and properly entered into a computer database, the student is responsible for the primary analysis and display of the data. It is expected that the student will seek the advice of his or her mentors during this process to ensure an efficient and appropriate analysis process.

Deliverables for the Capstone II Project

The capstone will culminate in a final written report and an oral presentation to one or more members of the MHQS leadership team.

Both the Program Advisor and the QI Capstone Advisor will review the written report and provide comments that must be responded to by the student. Sometimes there will be several rounds of comments. Once the student responds satisfactorily to the comments, final approval of the written report will be conveyed to the MHQS Administrative Office from the primary Program Advisor by completion of a capstone final review form and entering a final grade for Capstone II for the student.

The final written report should consolidate students' knowledge of the principles and practice of quality improvement, quality measurement, systems thinking, and leadership including change management. It will be written utilizing the Standards for Quality Improvement Reporting Excellence (SQUIRE website link: http://www.squire-statement.org/). For some students, this will provide their first experience in writing a comprehensive scholarly QI report. Students will be strongly encouraged to submit their work to a peer-reviewed journal for publication.

A copy of the final paper and oral presentation must be submitted to the MHQS Administrative Office to be included in the student’s file.
Grading

The grading system is as follows: A, excellent; B, good; C, fair; D, poor; and F, failure. At the MHQS graduate level, the grade of C, while passing, does not constitute satisfactory performance. Letter grades may be modified by a plus (+) or minus (-) sign at the discretion of the course director. The minimum standard for satisfactory work in each course is a B-. A 3.0 GPA or higher is required to graduate. The MHQS degree program additionally requires that the quality of the students’ work and their conduct in the program is of an appropriate professional quality to ensure advancement. Failure to meet these requirements may result in a student being placed on probation and/or require a student to withdraw despite a satisfactory grade average.

The mark of I is used to designate “incomplete.” A student who fails to complete a course and does not withdraw or change his/her status to auditor within the prescribed period shall receive at the instructor’s discretion either a grade of I (incomplete) or F (failure). It is expected, in general, that a student shall complete the work of a course during the term in which that course is taken. The course director may permit an extension of time up to one year for the completion of the course. In such cases, any course which is still incomplete after one calendar year from its official ending must remain as “incomplete” on the student’s record and shall not be credited toward a degree.

Academic Standing

The MHQS degree program has specific academic standards that are expected of all students. If a student fails to obtain a satisfactory grade for a required course they may be placed on academic probation. Students may continue to enroll in other courses while on probation with the permission of the MHQS Program Director and input from the course director, as needed. Students will be notified of their probation status through written communication. The program advisor will work with the student to develop a plan for academic success. Students may take a leave of absence, during which the student may complete remedial or missing coursework. The student must make arrangements with the course director to remediate any grades lower than a B- and these arrangements must be approved by the program director with input from the MHQS Curriculum Committee as needed.

A remediation will be required that may include one of the following: retake an end of course exam or submit a written assignment as designed by the course instructor. This will be at the discretion of the instructor for that course. After the student has completed work toward remediating a low grade, the Course Director will submit a grade change request with the newly earned grade. Additional remediation may be required based on the judgment of the program director, the student’s advisor, and/or the course directors. Any student who receives an unacceptable grade in a course for the second time or fails to meet the remediation plan will be dismissed and will not be eligible for re-admission. The status of any student who is or has previously been on probation and who receives an unacceptable grade for an additional course will be reviewed by the program director, and the curriculum committee. The committee is authorized to dismiss the student or allow the student to remain in the program on a probationary status.

Any student who exhibits unprofessional behavior as determined by the programmatic leadership will be
evaluated for probation. Continued unprofessional behavior will be grounds for removal from the program and withdrawal of all associated financial support.

**Academic Grievances**

Course Directors have the authority to make academic judgments in relation to their students. Therefore, if a graduate student wishes to have an evaluation, exam, or course grade reviewed, they must first discuss the matter with their instructor. Should the student and instructor not find a satisfactory resolution, or should a discussion prove impossible, the student may submit a request in writing to the Program Director.

Should the matter not be resolved with the aid of the Program Director, students may ask that their request be elevated to the Associate Dean for PSOM Master’s and Certificate Programs for further review. The role of the Associate Dean is to ensure that the Program has arranged for a proper review of the matter and that the evaluation was fair and impartial and in accordance with relevant University policies.

**Transfer Credit Policy**

Ten course units including completion of two capstone credits are required for the MHQS degree. MHQS students may request to transfer credit for graduate level courses completed at other schools within the University or from an accredited program. All transfer of credit requests will be considered on a case by case basis.

Transfer credit may not be applied to the two capstone course units required for the MHQS degree. Courses taken on a pass/fail basis and courses taken more than three years ago will not be considered for transfer credit. Only courses in which the student received a grade of "B" (3.0) or higher will be considered for transfer credit. No course may be counted toward degree requirements if it has been used toward the requirements for more than one other degree.

Requests for transfer credit should be submitted to the MHQS Program Director together with a course syllabus for the course under consideration no later than the start of the term in which the student expects to graduate, though at matriculation is preferred. The director will request a review of the course by a MHQS faculty member in that content area for its appropriateness for MHQS transfer credit.

Students may request substitution of a core course with a more advanced course in that content area. The process for substitution is the same as that for transfer credit.

**Waiving the Capstone 1 Course Policy**

CHIPS recognizes that a small number of students may have led a QI project in their prior work experience. On a case-by-case basis, the Capstone 1 Course Directors will consider student requests to “place out” of the Capstone 1 course requirement and replace this requirement with a second elective in the program. Students who wish to pursue this option must show evidence that they have led a QI project through the Define-Measure-Analyze-Improve phases of an improvement project and have completed at least two Plan-Do-Study-Act (Deming) Cycles. Students who request and are granted permission to place out of the
Capstone 1 Course requirement will still be required to submit a QI project as a poster and deliver a short oral presentation at the end of the certificate program. The QI project submitted/presented can be their prior QI work or a new project developed during their time in the certificate program.

**Audit Policy**

Auditing course work is discouraged, as full tuition is charged but no credit is earned toward the MHQS degree. If a student wishes to change a course status from credit to audit, s/he must obtain permission from the course instructor before the “drop/add” period ends. The audited course will appear on the transcript with the grade of “AUD” and no credit will be earned toward graduation. Students are not permitted to change the course status from graded to audit after the course has ended.

**Student Conduct**

MHQS students must comply with the University’s Code of Student Conduct and other University policies related to student conduct that appear in The PennBook: Resources, Policies and Procedures Handbook, available here: [https://catalog.upenn.edu/pennbook/](https://catalog.upenn.edu/pennbook/). These include, but are not limited to, policies on sexual harassment, acquaintance rape and sexual violence, appropriate use of electronic resources, open expression, and drug and alcohol usage. Students are also expected to abide by the Perelman School of Medicine [Research Policies, Procedures and Guidelines](https://catalog.upenn.edu/pennbook/research-policies/), including the [Authorship policy](https://catalog.upenn.edu/pennbook/authorship-policy/). Any student who exhibits unprofessional behavior as determined by program leadership will be evaluated for probation. Continued unprofessional behavior will be grounds for removal from the program.

**Code of Academic Integrity**

The most fundamental value of any academic community is intellectual honesty; accordingly, all academic communities rely upon the integrity of each and every member. Students are responsible not only for adhering to the highest standards of truth and honesty but also for upholding the principles and spirit of the University of Pennsylvania’s Code of Academic Integrity: [https://catalog.upenn.edu/pennbook/code-of-academic-integrity/](https://catalog.upenn.edu/pennbook/code-of-academic-integrity/) Violations of the Code include but are not limited to the following acts:

**A. Cheating:** using or attempting to use unauthorized assistance, material or study aids in examinations or any other academic work, or preventing, or attempting to prevent another from using authorized assistance, material, or study aids. Example: using a cheat sheet in a quiz or exam, altering a graded exam and resubmitting it for a better grade, etc.

**B. Plagiarism:** using the ideas, data or language of another without specific and proper acknowledgment. Example: copying another person’s paper, article, or computer work and submitting it for an assignment, cloning someone else’s ideas without attribution, failing to use quotation marks where appropriate, etc.

**C. Fabrication:** submitting contrived or altered information in any academic exercise. Example: making up data for an experiment, fudging data, citing nonexistent articles, contriving sources, etc.
D. Multiple Submission: submitting, without prior permission, any work submitted to fulfill another academic requirement.

E. Misrepresentation of Academic Records: misrepresenting or tampering with or attempting to tamper with any portion of one's own or any other person's transcripts or academic record, either before or after coming to the University of Pennsylvania. Example: forging a change of grade slip, tampering with computer records, falsifying academic information on one’s resume, etc.

F. Facilitating Academic Dishonesty: knowingly helping or attempting to help another violate provisions of this Code. Example: working together on a take-home exam, etc.

G. Unfair Advantage: attempting to gain unauthorized advantage over fellow students in an academic exercise. Example: gaining or providing unauthorized access to examination materials, obstructing or interfering with another student’s efforts in an academic exercise, lying about a need for an extension for an exam or paper, continuing to write even when time is up during an exam, destroying or keeping library materials for one’s own use, etc.

Time Limitation

The MHQS program may be pursued as a full-time program or a part-time program. If the program is pursued full-time, the time to complete didactics is typically 2 years while the capstone project may take up to 3 years to complete. If the program is pursued on a part-time basis, the time to complete the didactics is typically 3 years and the capstone project may take up to 4 years to complete. The maximum time permitted to complete the MHQS degree is 5 years from the date of matriculation. For MSN-MHQS students, students can request an extension beyond five years from the Academic Progressions Committee. For students who complete all or part of the PSOM Certificate Program in Healthcare Quality & Safety and subsequently matriculate into the MHQS, the clock “starts over” with respect to the time to complete the program. All students have 5 years from the date of matriculation into the MHQS to complete the program.

Voluntary Withdrawal from Program

Students may withdraw from their program at any time. Please contact your program for the appropriate form to commence official withdrawal proceedings. Students who are considering withdrawal are strongly encouraged to meet with their Program Director to discuss their situation and options. Students are responsible for dropping all registered courses in the semester they wish to withdraw to effectively stop the billing process (in other words, withdrawal from the program does not automatically cancel course registration). Students are responsible for all tuition charges and other financial obligations to the University incurred prior to the effective date of withdrawal. Once students have withdrawn, they may reapply for admission under the program’s application portal. Credit completed prior to readmission will be reviewed as transfer credit under the program’s transfer credit policy.

Drop from Program

A student may be dropped from their program for reasons listed below. Like a voluntary withdrawal, students will be responsible for any charges or financial obligations to the University incurred before the effective date of the drop.

1. Time Limit: Students are expected to complete their degree within five years of matriculation. Should a student fail to complete their degree within the time limit, the program may drop the student.
2. **Academic Progress**: Students are expected to maintain continuous registration, maintain a GPA of at least 3.0, carry incomplete marks for no more than a year, *achieve passing grades on comprehensive examinations*, and achieve grades of B or better in all coursework. If a student does not meet these criteria, they may be placed on probation—with an opportunity to remediate issues with their progress—or dropped from the program.

3. **Academic Integrity**: Students are expected to follow the University Code of Academic Integrity. Violations of this code may result in the student being dropped from the program.

4. **Student Conduct**: Students are expected to follow the University Code of Student Conduct. Violations of this code may result in the student being dropped from the program.

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**Registration**

**Continuous Registration and Leave of Absence**
Continuous registration as a master’s student is required unless a formal leave of absence is granted by the Program Director. A leave of absence will be granted for military duty, medical reasons, to pursue career-related opportunities, and for family leave; this leave is typically for up to one year and “stops the clock” on time to completion.

A student who wishes to take a leave of absence must submit a written request to the MHQS Program Director for initial approval and then it will be reviewed by the Associate Dean in the Office of Master’s and Certificate Programs for final approval.

When returning from a leave, students will contact their program thirty days before the start of the term in which they plan to return to confirm they are returning. If a student fails to return from leave within the set time limit or request a renewal, they may be dismissed from the program.

Leave of absence will affect any student loans—either those sought to pay for the degree or those from a previous academic career. This may include loans going into repayment before the end of the leave. Students are encouraged to talk to Student Registration and Financial Services prior to taking a leave of absence to ensure they have planned for shifting financial responsibility.

**Registration Process**

To register for MHQS required HQS courses, students go to Penn InTouch and choose Register for Courses.

To register for MHQS required core courses outside of HQS, please reach out to the MHQS Administrative office to help coordinate issuing a permit. Once the permit has been issued, students should follow the course registration instructions below.

To register for electives, students must first obtain approval from their MHQS Program Advisor if the course is not on the approved electives list. For all electives, students must contact the course instructor to request permission to enroll. Once the course instructor grants permission, then the student must notify the MHQS administrative office who will request a "permit" be issued. The student will then register themselves using the same instructions below.

Students can change their course schedule without penalty during the add/drop period.
Penn InTouch Course Registration Guide

Course Registration Site: www.upenn.edu/pennintouch

1. **To Claim Authorizations / Permits** – Go directly to register for courses

2. Look below course cart for authorizations and permits

3. Select permit to claim and add request

REGISTRATION COMPLETE
Students are required to verify course registration, tuition bills and grades through the student portal: http://pennintouch.apps.upenn.edu

Students may refer to the UPenn Academic Calendar to find out registration dates and add/drop periods: https://almanac.upenn.edu/penn-academic-calendar

Information on course offerings (e.g. timetables, classrooms, and course descriptions) can also be found on the Registrar’s website (https://sdfs.upenn.edu/registrar). For the most up-to-date information on MHQS courses visit the MHQS / CHIPS website at: https://chips.med.upenn.edu/
Throughout the program, students will be required to keep track of and follow through on all administrative requirements for the MHQS degree. Below is a summarized list of the requirements:

1) Graduation Application – In order to be considered for conferral of the degree students must complete an online graduation application approximately two months prior to the expected conferral date. The graduation application initiates an academic audit that, assuming all requirements are met, places the student with the next graduation cohort. The MHQS degree is conferred by the University of Pennsylvania Perelman School of Medicine and is granted in May, August and December of each year.

2) Course Evaluations – students are required to complete an evaluation for every MHQS course. Students will receive an email notification and website link to the online evaluation at the end of each term. Grades will not be released until evaluations are complete.

3) MHQS Surveys – students are required to complete periodic online evaluations of the MHQS program. Students will receive an email with a survey link from the MHQS administrative office. Graduating students are required to complete an exit survey, and in some years an interview, evaluating the program and their mentors.

Research Regulations Compliance

Because some of the QI project work conducted by our students involves clinical data, it is essential that all studies comply with various research regulations. These policies are designed to protect patient and human subject privacy.

To learn more, contact the Office of Clinical Research [https://www.med.upenn.edu/ocr/about.html](https://www.med.upenn.edu/ocr/about.html)
PennCard

PennCard is the official identification card of the University of Pennsylvania and is required for all students. The PennCard Center is located on the 2nd floor of the Penn Bookstore at 3601 Walnut Street. A valid government issued photo I.D. will be required in order to pick up your new PennCard. The Office can be reached at http://www.upenn.edu/penncard.

PennKey

Your PennKey name and password gives you access to PennNet, a Penn e-mail account, and many other essential services managed through the MHQS Program. All students are required to have a current, active PennKey and password.

If you have not received a PennKey setup code, please contact the PennKey office:

https://pennkeysupport.upenn.edu/contact

Penn InTouch

Penn InTouch provides secure web access to view current billing information, course registration and schedules, academic records, student health insurance, etc. Access to this site requires login with PennKey and password: http://pennintouch.apps.upenn.edu.

The PennPortal

The PennPortal webpage bundles together links to important information for students. Access the PennPortal at www.upenn.edu/penn_portal/.

Canvas

Canvas is the online course site system used for the majority of MHQS courses and by the University. Individual pages are set up for each MHQS Course and can be accessed with PennKey and Password.

Log in at https://canvas.upenn.edu

Support: canvas@pobox.upenn.edu

Canvas After Graduation: https://infocanvas.upenn.edu/canvas-after-graduation/
Description of Fees

The MHQS tuition is calculated based on course unit plus general and technical fees. Tuition for non-MHQS courses vary by department and students should contact the individual department to verify tuition cost.

For current tuition rates, visit https://srfs.upenn.edu/costs-budgeting/med/masters

**General Fee:** The general fee enables the University to maintain essential facilities such as the library system, museums and institutes, special laboratories, the Student Health Service, Athletics, and Career Services, all of which provide benefits to students both before and after graduation.

**Technical Fee:** Students are charged a technical fee for computing services such as access to computer labs and use of email accounts.

**Clinical Fee:** Full-time students (enrolled in more than 2.0 CU in a term) are required either to pay a separate Clinical Fee for access to the Student Health Service or to enroll in a health insurance plan that provides a capitated payment to the Student Health Service (i.e., the Penn Student Insurance Plan or a private plan that provides and equivalent capitated payment). Students who are full time employees or Fellows with insurance benefits through those sources may have their clinical fee waived.

A review of the Penn Student Insurance Plan can be found at the following website: https://shs.wellness.upenn.edu/inreq/.

*If you are a full-time student and do not need health insurance, you must complete a health insurance waiver or you will be automatically enrolled and charged.*

Registration Timeline

Student registration may be adjusted through Penn InTouch through the end of the Course Selection Period for each term, as listed in the term Academic Calendar. After the Course Selection Period ends, registration adjustments must be requested through the program administrators. There will be a financial penalty assessed for dropping a course after the Course Selection Period, following the scheme below:

<table>
<thead>
<tr>
<th>Drop on or before the Course Selection Period ends</th>
<th>100% reduction of tuition &amp; fees*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop after the Course Selection Period ends and before the Drop Deadline</td>
<td>50% reduction of tuition &amp; fees*</td>
</tr>
<tr>
<td>Drop after the Drop Deadline and before the Withdrawal Deadline</td>
<td>0% reduction in tuition &amp; fees*</td>
</tr>
<tr>
<td></td>
<td>Mark of ‘W’ added to the transcript</td>
</tr>
<tr>
<td>Drop after the Withdrawal Deadline</td>
<td>0% reduction in tuition &amp; fees*</td>
</tr>
<tr>
<td></td>
<td>Mark of ‘WF’ on the transcript, indicating Withdrawal with Failure</td>
</tr>
</tbody>
</table>

*Tuition & fees refers to Tuition, General Fee, and Technology Fee. Clinical Fee is separate and is only removed when registration is below 3CU. Clinical Fee will be removed through the Drop Deadline but not afterward.

**Note to students with Penn Faculty / Staff Tuition Benefits:** Tuition benefits are calculated based on the
number of registered CU and are adjusted in accordance with registration. Tuition benefits are always reduced 100%, regardless of the date of the drop, meaning they will not cover partial tuition & fees left on the bill as a result of dropping a course after the Course Selection Period ends. The portion of tuition and fees remaining on the bill after courses have been dropped are the student’s responsibility. **You must submit for tuition benefits each semester.**

**Penn/CHOP Tuition Benefit Policies**
Click [here](#) for more info on PSOM Faculty and Staff tuition benefits
Click [here](#) for more info on CHOP-employee tuition benefits
Click [here](#) for more info on Penn Medicine staff tuition benefits

**Billing & Payment**
Explain cadence of billing - e.g. each term based on registration.
- Access & Pay Your Student Bill: [https://srfs.upenn.edu/billing-payment/pennpay](https://srfs.upenn.edu/billing-payment/pennpay)
- University Billing Schedule: [https://srfs.upenn.edu/billing-payment/billing-schedule](https://srfs.upenn.edu/billing-payment/billing-schedule)
- Penn Tuition Benefit: [https://www.hr.upenn.edu/PennHR/benefits-pay/tuition/tuition-benefits-for-faculty-and-staff](https://www.hr.upenn.edu/PennHR/benefits-pay/tuition/tuition-benefits-for-faculty-and-staff)
- Third Party Payment: [https://srfs.upenn.edu/billing-payment/third-party-payment](https://srfs.upenn.edu/billing-payment/third-party-payment)
The MHQS is administered by the Center for Healthcare Improvement and Patient Safety (https://chips.med.upenn.edu) with oversight from the Penn Medicine Masters and Certificate Programs office (https://www.med.upenn.edu/psom/masters.html). The Academic home for the MHQS program is the Department of Medicine, Perelman School of Medicine.

**The Participating Schools** in the MHQS program are the Schools of Medicine and Nursing. In addition, the MHQS welcomes applicants from other schools within the University of Pennsylvania such as the Schools of Veterinary Medicine, Dental Medicine, and Social Policy and Practice.

**The Program Director** is responsible for administrative oversight and academic leadership of the program. The Director also serves as a primary academic advisor to MHQS students and is the chairperson of the Curriculum and Selection Committees. The current Program Directors are Jennifer Myers, MD and Kathy Shaw MD MSCE.

**The MHQS Curriculum Committee** serves to advise the program leadership on all matters related to implementation and evaluation of the MHQS program and other related activities. The curriculum committee is responsible for formal decision-making on academic aspects of the MHQS degree program. The committee is primarily composed of course directors, faculty advisors, and MHQS students who evaluate existing curriculum and implement modifications. Specific responsibilities of this committee include establishing criteria for membership and advising in the MHQS program, recruiting faculty for the program and core courses, and developing liaisons with appropriate Penn centers and institutes.

**The MHQS Selection Committee** meets to identify new MHQS students and award funding. The selection committee is responsible for reviewing all applications to the degree program and associated funding mechanisms. The members interview applicants and recommend acceptance on the basis of a uniform set of criteria related to the applicant, project, mentoring, and resources.
The Master of Science in Nursing (MSN)/ Master of Healthcare Quality and Safety (MHQS) dual-degree program provides graduate nursing students with the opportunity to combine healthcare leadership training with more advanced, interprofessional training in quality improvement (QI) and patient safety. The MSN majors eligible for this dual degree include (1) Health Leadership (HLMP) and (2) Nursing & Healthcare Administration (NADM). The basic understandings regarding application processes and degree requirements to earn an MSN in HLMP or NADM and MHQS are set forth below.

1. **APPLICATION AND ADMISSIONS**

Since the MHQS program is housed within the Perelman School of Medicine (PSOM), and the School of Nursing (SON) administers the MSN, applicants must meet the admissions requirements of both schools and must be admitted to each school independently. The HLMP/NADM MSN Program Director will collaborate with the MHQS Directors to assure that dual-degree applicants are properly evaluated and advised from the start of the application process.

Students admitted only to the MSN program can later apply to MHQS for the dual-degree program (per application deadlines), but coursework must be initiated at both schools before either degree is completed (to be considered an MSN-MHQS *dual* degree program). Students admitted simultaneously must take coursework in the SON in the first year but may also take MHQS courses towards the dual degree.

2. **CURRICULUM**
   a. Health Leadership MSN Majors

MSN students in the Health Leadership major complete 9 nursing CUs (6 core HLMP courses and 3 nursing leadership electives) and 3 general leadership electives that may be taken anywhere in the university for a total of 12 CUs. MHQS students complete 6 CUs of core PSOM courses, 2 approved electives and 2 capstone courses. Students in the dual MSN in HLMP/MHQS program complete 14 CUs of requisite coursework as follows:

6 CUs of MSN HLMP core courses (1 MHQS core*)
- NURS637 Introduction to Research or NURS500 Introduction to Principles of Epidemiology (1 CU)
- NURS748 Leadership Development in Healthcare (1 CU)
- NURS650/HQS650 Systems Thinking in Patient Safety (1 CU)*
• NURS540 Health Policy (1 CU)
• NURS699 Advanced Roles in Administrative Nursing Practice (1 CU)
• NURS612/HQS612 Principles & Practice of Healthcare QI (1 CU)*

3 CUs of nursing leadership electives (2 MHQS core* and 1 approved MHQS elective**)
• NURS573 Fundamentals of Design Thinking (1 CU)** or NURS790 Health Care Economics and Business Planning (1 CU)*
• HQS990/NURS698 Healthcare QI Capstone I (1 CU)*
• HQS991/NURS696 Healthcare QI Capstone II (1 CU)*

5 CUs of general leadership electives (4 MHQS core* and 1-2 approved MHQS elective**)
• HQS603 QI Measurement (1 CU)*
• HQS601 Intro to Healthcare Quality, Safety, and Value (1 CU)*
• NURS790 Health Care Economics and Business Planning (1 CU)* or HPR670 Health Care Strategic Leadership & Business Acumen Intensive (1 CU)*
• HQS602 Learning Health Systems Seminar Series (0.5 CU)*
• HQS640 Coaching Quality Improvement Work (0.5 CU)*
• 1-2 approved elective(s)
  o PSOM accepts up to 5 SON CUs (4 cross-listed MHQS core {NURS650, NURS612, NURS695, NURS696}and 1 course substitution {NURS790 for HPR607} or 1 approved elective {NURS573})
  o 3-4 CUs taken at PSOM (HQS603, HQS601, HQS602, HQS640); 1 elective
  o 1 approved elective taken at PSOM or elsewhere in the university

b. Nursing & Healthcare Administration MSN majors

MSN students in the NADM major complete 11 nursing CUs (9 core NADM courses, 1 nursing leadership elective and 1 administrative capstone) and 3 general leadership electives that may be taken anywhere in the university for a total of 14 CUs. MHQS students complete 6 CUs of core PSOM courses, 2 approved electives and 2 capstone courses. Students in the dual MSN in NADM/MHQS program complete 16 CUs of requisite coursework as follows:

9 CUs of MSN NADM core courses (3 MHQS core*)
• NURS637 Introduction to Research
• NURS748 Leadership Development in Healthcare (1 CU)
• NURS650/HQS650 Systems Thinking in Patient Safety (1 CU)*
• NURS540 Health Policy (1 CU)
• NURS699 Advanced Roles in Administrative Nursing Practice (1 CU)
- NURS612/HQS612 Principles & Practice of Healthcare QI (1 CU)*
- NURS790 Health Care Economics and Business Planning (1 CU) (accepted in lieu of HPR670 Health Care Strategic Leadership & Business Acumen Intensive)*
- NURS651 Nursing Informatics 1 CU
- NURS549 Human Resources Management in Healthcare 1 CU

1 CU of nursing administration capstone (1 MHQS core*)
- NURS654 Nursing Administration Practicum I (0.5 CU)
- NURS655 Nursing Administration Practicum II (0.5 CU) CU (both accepted in lieu of HQS991/NURS696 Healthcare QI Capstone II)*

1 CU of nursing leadership elective (1 approved MHQS elective**)
- NURS573 Fundamentals of Design Thinking (1 CU)**

5 CUs of general leadership electives (4 MHQS core* and 1 approved elective**)
- HQS603 QI Measurement (1 CU)*
- HQS601 Intro to Healthcare Quality, Safety, and Value (1 CU)*
- HQS602 Learning Health Systems Seminar Series (0.5 CU)*
- HQS640 Coaching Quality Improvement Work (0.5 CU)*
- HQS990/NURS695 Healthcare QI Capstone I (1 CU)*
- 1 additional approved elective**
  - PSOM accepts up to 5 SON CUs (3 cross-listed MHQS core {NURS650, NURS612, NURS695}and 2 course substitutions {NURS790 for HPR607; NURS654 and NURS655 for HQS991})
  - 3-4 CUs taken at PSOM (HQS603, HQS601, HQS602, HQS640); 1 elective
  - 1 approved elective (NURS573)

3. Tuition Rates and Distribution

Students can complete both degrees in 5 terms however most students are pursuing these degrees on a part-time basis and will likely complete the MSN-MHQS in 3.5 years or 10 semesters. The SON will remain the “home school” throughout the program and for cross-listed courses, MSN students will register for the nursing offering (e.g., NURS650, NURS612, NURS695).

4. Communication and Program Review

Directors of both programs will meet at least annually to review the efficacy of the dual-degree program, the progress of students enrolled in the dual-degree, and to propose changes or enhancements as needed.