PATIENT SAFETY, GRADUATE/PROFESSIONAL CERTIFICATE

It has been estimated that at least 98,000 US adults die each year from medical errors; fewer people die from breast cancer, AIDS, or auto accidents. The costs associated with preventable medical errors exceed $17 billion. To help train scientists and practitioners to effectively reduce the likelihood of preventable patient harm, the University of Wisconsin–Madison (http://www.wisc.edu/) offers the Graduate Certificate in Patient Safety. The certificate is supported by the School of Medicine and Public Health (http://www.med.wisc.edu/), School of Nursing (https://nursing.wisc.edu/), School of Pharmacy (http://www.pharmacy.wisc.edu/), and College of Engineering (https://engineering.wisc.edu/).

The graduate/professional certificate in patient safety is an interdisciplinary effort between the Department of Industrial and Systems Engineering, School of Nursing, School of Pharmacy, Department of Medical Physics, and Department of Population Health Sciences. Patient safety is of national and international importance and there is a shortage of people with expertise in the design of safe health care systems and technologies that can improve patient safety. Such expertise is important to physicians, nurses, pharmacists, and other health care professionals, and engineers. The certificate in patient safety provides students with knowledge and skills in an array of topics necessary for the identification, analysis, and control of patient safety programs.

ADMISSIONS

PREREQUISITES

1. Accepted into a graduate or professional degree program
2. Full- or part-time graduate student status
3. One of the following three:
4. A degree in a health-care-related field (that is, nursing, medicine, pharmacy, population health, public health, health care administration, health systems management, health care management), or
5. Work experience in health care delivery, or
6. Have taken a course in health care delivery such as I SYE 417
Health Systems Engineering, NURSING/S&PHA PHM/SOC WORK 105

The reason for the three options for prerequisites is to allow people with and without health care backgrounds to obtain the certificate.

IMPORTANT: students must choose one of the core faculty members listed below as an advisor. The advisor will determine if a student has met the prerequisite requirement. Advisors must sign the section of the curriculum form titled “Patient Safety Certificate Application and Completion” in order for students to enroll.

HOW TO OBTAIN THE PATIENT SAFETY CERTIFICATE

- To complete the Patient Safety Certificate application, please complete a Patient Safety Declaration Form (https://docs.google.com/forms/d/e/1FAIpQLSfsbOcd8o202yhc8bqXMb6GR6GdRlmuUqkrtbUcHFNFDGF_Q/viewform/) prior to enrollment of I SYE 699 Advanced Independent Study.
- The semester of your graduation, please complete the Patient Safety Certificate Completion Form (https://docs.google.com/forms/d/e/1FAIpQLScv7S18JNGXwX6gvySwA22cQ9r9VpH5JpKJKLVKK8LbmrOg/viewform/) and obtain your advisor’s signature and upload to online system; Send email of confirmation of completion of certificate requirements to prpeterson@wisc.edu.

Any questions about this process can be directed to prpeterson@wisc.edu. (prpeterson@wisc.edu)

EXIT REQUIREMENTS

- GPA of 3.2 or above for the Patient Safety Certificate Curriculum courses (mandatory and elective combined).
- Completion of all mandatory and elective courses.

REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHARMACY/</td>
<td>Safety and Quality in the Medication</td>
<td>3</td>
</tr>
<tr>
<td>I SYE 608</td>
<td>Use System</td>
<td></td>
</tr>
<tr>
<td>I SYE 557</td>
<td>Human Factors Engineering for Healthcare Systems</td>
<td>3</td>
</tr>
<tr>
<td>I SYE /</td>
<td>Quality of Health Care: Evaluation and Assurance</td>
<td>3</td>
</tr>
<tr>
<td>POP HLTH 703</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One of the following options:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I SYE 555</td>
<td>Human Performance and Accident Causation</td>
<td>3</td>
</tr>
<tr>
<td>I SYE /</td>
<td>Patient Safety and Error Reduction in Healthcare</td>
<td>1</td>
</tr>
<tr>
<td>MED PHYS 559</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp; I SYE 699</td>
<td>Advanced Independent Study</td>
<td></td>
</tr>
<tr>
<td>I SYE /PSYCH 653</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Elective 3

Total Credits 15

Students take 1 credit of I SYE 699 when paired with I SYE / MED PHYS 559, a 2-credit course.

LEARNING OUTCOMES

1. Describe specific problems associated with patient safety.
2. Compare and contrast traditional approaches to safety with a systems engineering approach.
3. Explain how systems engineering and systems design can be used to identify, analyze and solve patient safety research and applied problems.
4. Demonstrate the ability to apply system engineering principles to a real-world problem in healthcare through the completion of a research project.

**PEOPLE**

**ADVISORS**

Students must choose one of the core faculty members listed below as an advisor:

- Michelle Chui (https://pharmacy.wisc.edu/chui-research-group/dr-michelle-chui/)
  Pharmacy
- Linsey Steege (https://nursing.wisc.edu/staff/steege-linsey/)
  School of Nursing
- Funmi Abraham (https://apps.pharmacy.wisc.edu/sopdir/olufunmilola_abraham/)
  Pharmacy
- Maureen Smith (https://pophealth.wisc.edu/staff/smith-maureen/)
  Population Health Sciences
- Doug Wiegmann (https://directory. engr.wisc.edu/ie/Faculty/Wiegmann_Douglas/)
  Industrial & Systems Engineering
- Edmond Ramly (https://ictr.wisc.edu/staff/ramly-edmond/)
  Family Medicine & Community Health