

UNIVERSITY OF WISCONSIN-MADISON  
GRADUATE CERTIFICATE IN PATIENT SAFETY

Student/Advisor Certificate Curriculum Progress Document

## OBJECTIVES

To increase student knowledge about how systems engineering and systems design can be used to identify, analyze and solve patient safety research and applied problems.

## BACKGROUND

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 is offering this Graduate Certificate in Patient Safety. The Certificate is supported by the School of Medicine and Public Health, School of Nursing, School of Pharmacy, and College of Engineering.

## PREREQUISITES

1. Accepted into a graduate or professional degree program
2. Full- or part-time graduate student status
3. One of the following three:
  - a. A degree in a health care related field (i.e. nursing, medicine, pharmacy, population health, public health, health care administration, health systems management, health care management), or
  - b. Work experience in health care delivery, or
  - c. Have taken a course in health care delivery such as Introduction to Health Systems Engineering (IE691), Health Care Systems (Nursing 105), or Health Systems and Health Care Delivery (Law 940).

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

## 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

## STUDENT RESPONSIBILITIES:

- Sign the application section of the Patient Safety Certificate application and Completion form.
- Have your advisor sign the application section of the Patient Safety Certificate Application and Completion form.
- Provide a copy of the signed Patient Safety Certificate Application and Completion form to the Industrial & Systems Engineering Associate Student Services Coordinator, Lisa Zovar. Her office is located in Room 3107E of the Mechanical Engineering Building. The copy you provide may be a hard copy or you may email her a PDF.
- Lisa Zovar will then notify the registrar that you have fulfilled the requirements.

## ADVISORS

- Students must choose one of the core faculty members as an advisor.
- The advisor will determine if a student has met the pre-requisite requirement.
- Advisors must sign the section of the curriculum form titled “Patient Safety Certificate Application and Completion” in order for students to enroll.
- When students have completed the Certificate curriculum, advisors will sign off on the Patient Safety Certificate Application and Completion form.

## POTENTIAL ADVISORS

Patricia Brennan	School of Nursing, Industrial & Systems Engineering
Pascale Carayon	Industrial & Systems Engineering
Denny Fryback	Population Health Sciences, Industrial & Systems Engineering
Ben-Tzion Karsh	Industrial & Systems Engineering
Mary Ellen Murray	School of Nursing
Kathleen Skibinski	School of Pharmacy
Maureen Smith	Population Health Sciences
Michael Smith	Industrial & Systems Engineering
Bruce Thomadsen	Medical Physics
David Zimmerman	Industrial & Systems Engineering

<b>Mandatory Certificate Courses</b>	<b>Credits</b>
1. IE 961: Patient Safety Research Seminar	1
2. Equivalent of a 1-credit Patient Safety Project. To meet this requirement, students will be expected to work on an actual patient safety project with a health care delivery organization (in-patient, out-patient, long-term care, home care, etc.) in which they will be involved in the design, measurement, analysis, implementation and/or evaluation of a patient safety project.  All students who complete requirement #3 below will automatically meet this requirement.	0
3. Pharmacy 608: Safety and Quality in the Medication Use System	3
4. Medical Physics/IE 559: Patient Safety Risk Assessment	2
5. Population Health Sciences/ISyE 703: Quality of Health Care	3
6. One of the following: a. ISyE 549: Advanced Human Factors Engineering b. ISyE 555: Accident Causation and Analysis c. ISyE 652: Sociotechnical Systems d. ISyE 653: Job and Organizational Design	3
<b>TOTAL MANDATORY</b>	<b>12</b>
Elective Certificate Courses (minimum 3 credits)	3
<b>GRAND TOTAL</b>	<b>15</b>

#### ELECTIVE COURSES:

##### History of Medicine

HM 545: Ethical and Regulatory Issues in Clinical Investigation

##### Industrial & Systems Engineering

ISyE 515: Engineering Management  
 ISyE 549: Advanced Human Factors Engineering  
 ISyE 555: Human Performance and Accident Causation  
 ISyE 556: Occupational Safety and Health  
 ISyE 575: Introduction to Quality Engineering  
 ISyE 616: Planning Large-Scale Complex Systems  
 ISyE 617: Health Information Systems  
 ISyE 652: Sociotechnical Systems  
 ISyE 653: Organization and Job Design  
 ISyE 691: Introduction to Health Systems Engineering

ISyE 691: Technology Implementation  
ISyE 854: Human Error  
ISyE 859: Seminar on Human Factors and Patient Safety

#### Law School

Law 854: Center for Patient Partnerships

#### Nursing

Nursing 415: Organizational Influences on Interdisciplinary Practice  
Nursing 761: Health Program Planning, Evaluation, and Quality Improvement  
Nursing 802: Ethics and the Responsible Conduct of Research

#### Population Health Sciences

PHS 548: Economics of Health Care  
PHS 719: Seminar – Contemporary Issues in Health Care  
PHS 796: Introduction to Health Services Research  
PHS 797: Strategy and Methods in Epidemiology  
PHS 798: Epidemiologic Methodology  
PHS 800: Quantitative Methods in Population Health I  
PHS 802: Epidemiology of Chronic Diseases  
PHS 803: Monitoring Population Health  
PHS 875: Assessment of Medical Technologies

## PATIENT SAFETY CERTIFICATE APPLICATION AND COMPLETION

### Application

I, \_\_\_\_\_ (print your name), certify that I have completed at least one of the three prerequisite requirements listed below and have provided to my advisor, \_\_\_\_\_ (print advisor's name), proof of completion.

- A degree in a health care related field (i.e. nursing, medicine, pharmacy, population health, public health, health care administration, health systems management, health care management), or
- Work experience in health care delivery, or
- Have taken a course in health care delivery such as Introduction to Health Systems Engineering (ISyE 691), Health Care Systems (Nursing 105), or Health Systems and Health Care Delivery (Law 940).

Student signature \_\_\_\_\_ Date: \_\_\_\_\_

Advisor signature \_\_\_\_\_ Date: \_\_\_\_\_

### CURRICULUM

The Certificate requires 15 credits, of which 12 credits come from core or otherwise mandatory coursework.

### CERTIFICATE OF COMPLETION OF PATIENT SAFETY CERTIFICATE

\_\_\_\_\_ (print student's name here) has successfully completed the Exit Requirements for the Patient Safety Certificate.

Advisor signature: \_\_\_\_\_

Date: \_\_\_\_\_