

TO: Randy Smith, Vice Provost for Academic Programs
Eric Bielefeld, Chair, Council on Academic Affairs
FROM: Shari Speer, Associate Dean for Academic Affairs, Graduate School
DATE: 5-8-2020
RE: Proposal for a Certificate in Usability and User Experience Design in Healthcare

The School of Health and Rehabilitation Sciences is proposing a new certificate in Usability and User Experience Design in Healthcare.

The proposal was received by the Graduate School on December 30th, 2019. It was reviewed by GS/CAA on January 16th, 2020, and revisions were requested. Revisions were received on April 2nd, 2020, and reviewed by GS/CAA on April 23rd 2020. No further revisions were requested, and the proposal was recommended for approval by the Graduate Council. The proposal was approved by the Graduate Council on May 4th, 2020.

December 12, 2019

Committee on Academic Affairs
The Ohio State University

To Whom It May Concern:

I am pleased to forward for review the proposal to implement a Certificate program in Usability and User Experience Design at both the graduate and undergraduate levels. This certificate will provide advanced coursework for students and practitioners in the growing field of creating and evaluating technology, specifically healthcare technology, to assure user satisfaction. As is evident from the proposal, there is a critical need for practitioners with this advanced training as the amount of technology used in healthcare systems is expanding. The program proposal has been reviewed and approved by the Graduate Studies and Curriculum Committees of the School of Health and Rehabilitation Sciences, so we now forward it for College and University approval. We look forward to answering any questions that arise. The courses outlined in the proposal will be submitted separately for approval.

Thank you for your consideration of this proposal.

Sincerely,



Deborah S. Larsen, PT, PhD, FASAHP
Professor and Director
School of Health and Rehabilitation Sciences
Associate Dean, College of Medicine

Title: Usability and User Experience Design Experience in Healthcare

Certificates of Study

Degrees and certificates

3335-9-32.1 Requirements for a certificate of study

Proposal

Usability and User Design Experience in Healthcare Certificate Program

This proposal covers one program, which is composed of 12 hours overall of graded credit classes, all of which are offered online. The 12 hours are offered as four, 3-credit hour classes, which can be taken in any sequence. The specific type of certificates are:

- Graduate Academic Certificate Program (Credit): Post-Bachelor Degree Stand-Alone Certificate (Type 3a)
- Undergraduate Academic Certificate Program (Credit): Post-High School Diploma Stand-Alone Certificate (Type 1a)

Brief description of the disciplinary purpose, significance, and rationale

In healthcare, poor user experience can contribute to avoidable patient mortality, and so the stakes are much higher to have acceptable usability for both patients and stakeholder organizations that are liable for unfortunate outcomes. For this reason, the American Medical Association (AMA) has recommended that Electronic Health Record (EHR) vendors improve the user experience and usability now that they have achieved widespread adoption with the aid of federal financial incentives¹. “User experience (UX) design is the process of creating products that provide meaningful and relevant experiences to users.”² Since the 1990s, there has been a history of incorporating UX design into personal information technology devices, websites, social media platforms, consumer software, and specialized industry (e.g., financial) software. Products such as the iPhone are believed to have an advantage in the marketplace due to a great user experience, and healthcare is acknowledged to lag other sectors with respect to incorporating user experience in the design process.

One mechanism to meet the workforce need is to cross-train students with healthcare knowledge and experience in UX design methods. Increasingly, portfolios of projects are the standard by which UX talent is assessed and hired at companies, and so a project-based training approach meets many needs at once. Therefore, the **purpose** of this certificate program is to educate health science, engineering, and clinical professionals on the application of science and technology for improving the usability, usefulness, and desirability of electronic health records, medical devices, consumer health applications, and wearable technology. The program will provide a foundation of UX and human factors principles and methods that will translate ultimately into reduced patient harm and reduced economic risks following unfortunate patient outcomes, particularly in acute healthcare settings.

Description of the proposed curriculum

Four courses are required in the proposed curriculum, all of which are offered online:

HIMS 5650 (3) – Information Technology

HIMS 5635 (3) – Quality Improvement and Patient Safety

HIMS 5900 (3) – Human Factors in Healthcare

HIMS 5700 (3) – Project in Health Information Management and Systems

The program can be completed over the course of two semesters, but is more likely to be taken part-time over four semesters for working professionals. Sample course schedules are described in Table 1.

Semester	Example 1 (9-months)	Example 2 (21-months)
Autumn	HIMS 5650 Information Technology, HIMS 5635 Quality Management and Performance Improvement in Health Care	HIMS 5650 Information Technology
Spring	HIMS 5900 Human Factors in Healthcare, HIMS 5700 HIMS Project	HIMS 5900 Human Factors in Healthcare
Summer		HIMS 5635 Quality Management and Performance Improvement in Health Care
Autumn		HIMS 5700 HIMS Project

Table 1. Sample program

Administrative arrangement for the proposed program

Existing personnel in Health and Rehabilitation Sciences will manage the new certificates. There are no prerequisites or exams required for admission to the program, which minimizes the administrative burden of administering the program. Students will declare their intent to complete the certificate by completion of application in the HRS Student Services office, which then processed through the registrar's office. Students will receive advising for course registration, as needed. Completion of the required coursework will be monitored through the Academic Progress Report. In order to exit the program successfully, students must receive a passing grade of all required courses (defined as a minimum cumulative GPA of 3.0/4.0 averaged over all the four courses) and fulfill all academic requirements.

In order to be as flexible as possible and ease the burden of scheduling classes in a way that enables timely progression through the programs, the courses may be taken in any sequence and all of them are taken as an online course. The courses are listed as U/G so that the classes can be taught as a hybrid simultaneously with both undergraduate and graduate students, with graduate students having advanced course goals and requirements throughout. The HIMS 5700 project course will be used for these other certificates as well. The number is generic and we are providing an example of how we will use it for this certificate, but it will also be used for projects more oriented at medical billing and coding, for example.

Initially, existing HIMS faculty will teach the classes in the certificate programs, until enrollment grows sufficiently to justify hiring additional HIMS tenure track, educational, or

adjunct faculty for teaching in the courses. Similarly, with the projected enrollment, there may be sufficient justification for adding a portion of an FTE of a staff member, who would likely serve as a shared resource for multiple certificates that would report to the Director of Academic Affairs for the School of Health and Rehabilitation Sciences, to answer admissions queries, answer questions regarding information technology or financial aid, answer alumni queries about transcripts and evidence of certificate completion, and track the progress of students through the program and program outcomes. Dr. Emily Patterson has repeatedly taught two of the classes once a year since 2010, HIMS 5650 and HIMS 5635, as well as being the individual who led the creation of the content in HIMS 5900 in coordination with Dr. Jennifer Garvin, which has been approved as an online course. Therefore, two of the four courses already have content ready to be disseminated as soon as it is converted to online format and one course is already approved to be offered for the first time as soon as the certificates are approved.

Evidence of need, including opportunities for employment if applicable

The current availability of trained UX personnel who also have healthcare knowledge is less than demand, leading to frequent 'poaching' of employees, high salaries for job entrants with little prior work experience, and some companies and hospitals (e.g., Kaiser Permanente) creating 'hub' locations near universities in rural settings or small cities to make it easier to attract and retain new graduates at a lower cost. Looking ahead, the addition of augmented reality, virtual reality, artificial intelligence, and wearable technology is expected to increase the need for incorporating UX design in both healthcare and other technology sectors.

Healthcare is a semi-regulated industry with high stakes for poor usability, and thus needs a different approach than UX design for other sectors. Food and Drug Administration (FDA) requirements to incorporate human factors during the design process have been in place for several decades. One relevant requirement for medical devices is ISO/IEC 62366, which is a "process-based standard that aims to help manufacturers of medical devices 'design in' usability and 'design out' use errors".³ More recently, the Office of National Coordinator (ONC) recommends incorporating human factors verification and validation methods during Safety-Enhanced Design requirements to qualify for Meaningful Use financial incentives for treating Medicare patients⁴. Having formally trained UX designers and human factors engineers in-house in companies is associated with receiving FDA approval on the first submission, and thus an increasing trend is moving from having personnel as consultants to in-house in many medical companies.

Relevant job titles include User Experience (UX) Designer, User Experience (UX) Specialist, User Experience Developer, User Experience (UX) Architect, User Experience (UX) Researcher, Usability Specialist, User Interface (UI) and User Experience (UX) Designer, and Human Factors Engineer. On April 8, 2019, the estimate is that the "The national average salary for a UX Designer is \$90,697 in United States, with a low salary of \$62,000 and a high salary of \$130,000."⁵

Fields of study that might be interested in this type of certification to enhance an existing relevant foundation of knowledge include these CIP codes, which are used across higher education as common definitions for fields of study: Human Computer Interaction (30.3101), Bioengineering and Biomedical Engineering (14.0501), 14.0903 (Computer Software

Engineering), Engineering Design (15.1502), Industrial Engineering (14.3501), 26.1103 (Bioinformatics), 51.2706 (Medical Informatics), 11.0104 (Informatics), 11.0103, 11.0801.

Prospective enrollment

Prospective enrollment is 20 new students a year, with three being graduate students already at OSU and seventeen being recently graduated undergraduate students in the health sciences program, who are advancing next to the Master's in Health Administration (MHA) at OSU. The anticipated range is 1-20 graduate students and 5-30 undergraduate students. It is possible that enrollment could be much higher, particularly if an organization such as GE Healthcare chooses to support this educational path for current employees. In general, both the healthcare-oriented and general-purpose software engineering markets are strong and growing, in part due to recent increases in expectations from the FDA and ONC for UX designers to participate in safety-enhanced design throughout the lifecycle of a product.

The leading option for UX design certification is offered as a short course by the Nielson Norman Group.⁶ On their website, it states "More than 40,000 people have attended NN/g UX Training courses, representing thousands of organization from 102 countries on 6 continents."⁷ This short course program was designed by leading academics, Donald Norman and Jakob Nielsen, who are credited with popularizing the term UX Design and providing leadership industry at Apple, Inc. for implementing relevant methods throughout the lifecycle of products such as the iPhone. Challenges with this certification is that it is extremely rare for either of the two principals to teach the courses, and thus more junior faculty are employed with variable experience, the certification requires an in-person experience at a conference at a specified time or on-site at a company, and the content is limited to what can be achieved in a matter of days without any actual experience doing project or applied work that can be shown in a portfolio. They offer two levels of certification:

- UX Certification Program is a 5-day course, plus exams, and costs \$3,861.
- UX Master Certification Program lasts 15 days, plus exams, and costs \$11,583.

The leading academic option is San Francisco State University Extension. This course requires prior familiarity with UX design and focuses on mobile UX. The program is only available on-campus. The duration is three weekends: Friday evenings from 18h00 to 21h00 (three hours) and a full Saturday (09h00 to 05h00). The course is available quarterly and costs \$1,500.

The leading online UX program option is Udemy. Their "User Experience: The Ultimate Guide to Usability and UX" costs \$150. The content is 12 hours of on-demand tutorial videos, seven articles, and 12 supplementary resources, and lifetime access to the material is provided. The class takes 2-3 weeks on average to complete.

For human factors in healthcare, a new online certificate program will be offered by UIUC for human factors by Wendy Rogers, but no information has been posted publicly yet. A certificate program is offered by the University of Utah's Department of Psychology which is not specific to healthcare.

A leading industrial organization that provides Usability and UX Design services to primarily medical device companies to meet FDA requirements is the human factors engineering (HFE) practice at EMERGO by UL (Underwriters Laboratories), which was previously brand named UL-Wiklund. They are estimated to charge \$30,000 - \$150,000 per

contract to provide these services for one medical device, which this certificate is aimed at providing the skills to provide in-house, particularly at wearable medical device companies where a sensor for heart rates or oxygenation automatically requires FDA oversight per current requirements.

Program goals and learner outcomes for the certificate enrollees

At the completion of the certificate program, undergraduate student learners are expected to:

- Plan, manage, and conduct user research to identify user needs.
- Plan, manage, and conduct usability tests throughout the development process.
- Perform task analysis, use-related risk analysis, known problems analysis, root cause analysis, and residual risk analysis.
- Apply human factors design principles to perform expert reviews.
- Support the design and revision of user interfaces that facilitate intuitive and safe use.

At the completion of the certificate program, graduate student learners are expected to:

- Plan, manage, and conduct user research to identify user needs.
- Plan, manage, and conduct usability tests throughout the development process.
- Perform task analysis, use-related risk analysis, known problems analysis, root cause analysis, and residual risk analysis.
- Apply human factors design principles to perform expert reviews.
- Support the design and revision of user interfaces that facilitate intuitive and safe use.
- Design an alternative integrated user experience design solution.
- Design a formative evaluation.
- Conduct a summative usability test that meets a national standard.

The **assessment plan** will be conducted through a triangulation of data including student and employer surveys as well as targeted assignments linked to specific program goals. As part of the HIMS 5700 Project course, an e-portfolio is assessed. This assessment will be used to determine whether the desired benchmark of 90% of all certificate students earn a grade of B- or higher on the e-portfolio. In addition, assessment will be incorporated into a school-wide assessment conducted by student services staff, which includes satisfaction surveys and employment surveys of certificate alumni.

Special efforts to enroll and retain underrepresented groups in the discipline

The primary basis for the estimate for prospective enrollment is based upon initially targeting current first-year graduate students (primarily medical students and allied health students) and recently graduated undergraduate students in health sciences. Eventually, the program is expected to grow to a national or international audience, bringing in students who would not otherwise be enrolled at The Ohio State University. In order to enroll and retain underrepresented groups, outreach will be conducted with branch campuses, particularly in

Appalachia and Columbus public high schools. The HIMS program has historically had excellent success with recruiting and retaining students from underrepresented minority groups, particularly African Americans from socioeconomically disadvantaged areas in Ohio, and will leverage existing networks, particularly with engaged HIMS alumni, for the new certificate programs.

Student advising sheet/curriculum guide – see appendices.

Concurrence from other units

The Department of Biomedical Informatics and the Department of Integrated Systems Engineering give concurrence, as shown in the attached letters from the respective department chairs. (See Appendices.) The Department of Integrated Systems Engineering has an accredited MS graduate program in Human Factors and Ergonomics which would benefit from cross- referrals from a market which they do not typically succeed in recruiting from currently. Similarly, our proposed program would benefit from cross-referrals from their recently graduated undergraduate students who want to obtain a certification at the graduate level while already in school or from undergraduate or graduate students in other parts of engineering who take human factors classes due to their research or applied interests.

Date proposed program to become effective

Spring 2021

Previous submittals of the same or similar program proposals (indicate reasons for withdrawal or disapproval)

None

References

¹ <https://www.ama-assn.org/sites/ama-assn.org/files/corp/media-browser/member/about-ama/ehr-priorities.pdf>

² <https://www.interaction-design.org/literature/topics/ux-design>

³ <https://www.userfocus.co.uk/articles/ISO62366.html>

⁴ Lowry, S. Z., Quinn, M. T., Ramaiah, M., Schumacher, R. M., Patterson, E. S., North, R., ... & Abbott, P. (2012). Technical evaluation, testing, and validation of the usability of electronic health records. *National Institute of Standards and Technology*, 65-87.

⁵ https://www.glassdoor.com/Salaries/ux-designer-salary-SRCH_KO0,11.htm

⁶ <https://dynamapper.com/blog/19-ux/441-top-15-ux-certification-programs-to-learn-user-experience>

⁷ <https://www.nngroup.com/>

APPENDICES

- A: Certificate Syllabi
- B: Advising Curriculum Guides
- C: Concurrence Documentation
- D. Curricular Approval Letters

OFFICE OF DISTANCE EDUCATION AND EVALUATION SYLLABUS FOR DISTANCE EDUCATION

**The Ohio State University
School of Health Sciences and Rehabilitation
Health Information Management and Systems
Spring Semester**

ODEE SYLLABUS: HIMS 5650

TITLE OF THE COURSE: Information Technology

TERM: Fall 2021

Course overview

Instructor: Emily S. Patterson, PhD

Email address: patterson.150@osu.edu

Phone number: 614-292-4623

Office hours: Tuesday 3-5 PM or by appointment

Course description

Students develop the ability to understand how health information technology is implemented and leveraged to aid clinical work, as well as how to mitigate patient safety risks introduced with new technologies due to usability and workflow. Course provides a broad survey introduction to health informatics as a multidisciplinary field addressing current, emerging, and future technologies and related policy.

Course learning outcomes

The purpose of the course is for the students to develop the ability to proficiently design, evaluate, and implement health information technology in a health environment.

By the end of this course, students should successfully be able to:

1. Identify information needs of customers in diverse stakeholder roles in healthcare
2. Contribute to the planning, design, selection, implementation, integration, testing, evaluation, and support of health information technologies
3. Analyze workflow processes and responsibilities to meet organizational needs
4. Conduct observations of workers in a work setting to generate functional requirements
5. Conduct a formative usability test
6. (Graduate level) Conduct a summative usability test that meets a national standard

Course materials

Textbook: None

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
Phone: 614-688-HELP (4357)
- **Email:** 8help@osu.edu
TDD: 614-688-8743

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen

Technology skills necessary for this specific course

- CarmenConnect text, audio, and video chat
- Collaborating in CarmenWiki
- Recording a slide presentation with audio narration
- Recording, editing, and uploading video

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

Necessary software

- [Microsoft Office 365 ProPlus](#) All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
 - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
 - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.

Grading and faculty response

Grading Policy:

- The University's standard grading scheme will be used for this course.
- Grades will be available for students to view on the course's CARMEN website

Grading: Grades are assigned based on total percentages of the points below and will not be curved. No extra credit will be offered. The grading scale is as follows:

A = 93 – 100	B- = 80 – 82.9	D+=67-69.9
A- = 90 – 92.9	C+ = 77 – 79.9	D = 60-66.9
B+ = 87 – 89.9	C = 73 – 76.9	E = Below 60
B = 83 – 86.9	C- = 70 – 72.9	

Undergraduate Students

Assignment or category	Points
Topic Assignments	30
Participation and Quizzes	30
Exams	20
Final Project	20
Total	100

Graduate Students

Assignment or category	Points
Topic Assignments	30
Participation and Quizzes	30
Exams	20
Final Project	20
Total	100

See course schedule, below, for due dates

Late assignments

Assignments must be submitted by the deadline, otherwise there will be a penalty of one letter grade (or 10% deduction from the total possible points) for each day late

Grading Criteria for Written Assignments

Grade	Description
A	Excellent work <ul style="list-style-type: none"> • Student went significantly above and beyond stated minimum requirements • All key points are addressed • Fully developed logic that is evidence of higher level critical thinking • Writing/though processes are exceptionally clear, precise and organized • Appropriate degree of insight or supporting documentation is provided • No spelling, sentence structure or grammatical errors
B	Above average work <ul style="list-style-type: none"> • Student went above stated minimum requirements • Most key points are addressed • Well-developed logic that is evidence of higher level critical thinking • Writing/though processes are clear, precise and organized • Some insight or supporting documentation is provided • Minimal spelling, sentence structure and grammatical errors
C	Average work <ul style="list-style-type: none"> • Tasks completed, but student did not go above and beyond stated minimum requirements • Some key points are addressed • Average expression of logic that is evidence of higher level critical thinking • Writing/though processes are acceptable in clarity, precision and organization • No insight or supporting documentation is provided • Presence of some spelling, sentence structure and grammatical errors
D E	<ul style="list-style-type: none"> - Below average work - Unacceptable work <p>Instructor reserves the right to determine whether the elements below constitute a grade of D or E:</p> <ul style="list-style-type: none"> • Student did not meet the stated minimum requirements • Few or no key points are addressed • Insufficient development of logic that is evidence of higher level critical thinking • Writing/though processes are unclear and/or disorganized • No insight is provided; incorrect conclusions or supporting documentation may be present • Many spelling, sentence structure and grammatical errors

Faculty feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

Grading and feedback

For large weekly assignments, you can generally expect feedback within **7 days**.

E-mail

I will reply to e-mails within **24 hours on school days**.

Discussion board

I will check and reply to messages in the discussion boards every **48 hours on school days**.

Attendance, participation, and discussions Student participation requirements

Because this is a distance-education course, your attendance is based on your online activity and participation. The following is a summary of everyone's expected participation.

1. Participation and Quizzes

- Logging in: AT LEAST ONCE PER WEEK

Be sure you are logging in to the course in Carmen each week, including weeks with holidays or weeks with minimal online course activity. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible*.

Office hours and live sessions: OPTIONAL OR FLEXIBLE

My office hours will be from Tuesday 3-5 PM and are optional. If you would like to discuss an assignment with me outside of my scheduled office hours, please contact me at the beginning of the week via email at patterson.150@osu.edu to schedule an appointment.

- Participation:
 - Complete readings and other assigned activities. These will give you a firm basis for the course content and allow you to be a fully informed participant.
 - Graduate students are expected to complete relevant assignments noted.

2. Topic Assignments

Homework assignments must be submitted by the deadline via Carmen. Resubmissions for a higher grade are not allowed. Late assignments may be submitted after the deadline with a 10% reduction in potential points for every 24 hours past the deadline.

3. Final Project

Personal experience using the methods is required for an optimal learning experience. This class will include one project in which students will be required to do a professional presentation with associated slides and write a professional report with the accurate use of methods, appropriate technical terminology, and professional writing. Detailed instructions and a grading rubric will be provided in the project description.

CLASS POLICY:

1. Students must take an active role in class for the learning process to be successful. Thus, students are expected to:

- Participate in course modules and team meetings at all times.
- Actively participate in course site and team discussions and activities.
- Objectively and candidly confront and resolve problems via writing using email and course site and phone if needed.
- Confront and cope with critical people problems via writing using email and course site and phone if needed.
- Display receptiveness to ideas/opinions/contributions of others in a peer review situation via writing using email and course site and phone if needed.
- Bring reference/resource materials to the course and/or team meetings as assigned.
- Be prepared for class and team activities by completing reading and written assignments prior to class.

DISCUSSION POLICY:

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online.
- **Citing your sources:** When we have academic discussions, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)
- **Backing up your work:** Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

Other course policies

- **Quizzes and exams:** You must complete the midterm and final exams yourself, without any external help or communication. Weekly quizzes are included as self-checks.
- **Written assignments:** Your written assignments, including discussion posts, should be your own original work. You are allowed to discuss all written assignments with other students in the course, but the assignments are written and submitted by each individual. In formal assignments, you should follow APA style to cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in--but no one else should revise or rewrite your work.
- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.

- **Falsifying research or results:** All research you will conduct in this course is intended to be a learning experience; you should never feel tempted to make your results or your library research look more successful than it was.
- **Collaboration and informal peer-review:** The course includes many opportunities for formal collaboration with your classmates. While study groups and peer-review of major written projects is encouraged, remember that comparing answers on a quiz or assignment is not permitted. If you're unsure about a particular situation, please feel free just to ask ahead of time.

Ohio State's academic integrity policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an "excuse" for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Trigger warning

Some contents of this course may involve media that may be triggering to some students due to descriptions of and/or scenes depicting acts of violence, acts of war, or sexual violence and its aftermath. If needed, please take care of yourself while watching/reading this material (leaving classroom to take a water/bathroom break, debriefing with a friend, contacting a Sexual Violence Support Coordinator at 614-292-1111, or Counseling and Consultation Services at 614-292-5766, and contacting the instructor if needed). Expectations are that we all will be respectful of our classmates while consuming this media and that we will create a safe space for each other. Failure to show respect to each other may result in dismissal from the class.

Statement on title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Accessibility accommodations for students with disabilities Requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact your instructor privately as soon as possible to discuss your specific needs. Discussions are confidential.

In addition to contacting the instructor, please contact the Student Life Disability Services at [614-292- 3307](tel:614-292-3307) or ods@osu.edu to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University. Go to <http://ods.osu.edu> for more information.

Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Carmen \(Canvas\) accessibility](#)
- Streaming audio and video
- Synchronous course tools

Your mental health!

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact the College of Pharmacy Office of Student Services in room 150 Parks Hall (614-292-5001) OR OSU Counseling and Consultation Services (614-292-5766) for assistance, support and advocacy. This service is free and confidential.

Course schedule undergraduate and graduate (tentative)

Week	Topics, Readings, Assignments, Deadlines
1	<p>History of Healthcare Informatics</p> <p><u>Discussion post assignment:</u> Identify how a historical event in healthcare was surprising or unexpected in the assigned reading</p> <p><u>Quiz assignment:</u> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p><u>Discussion post assignment:</u> Describe how healthcare information technology differs from information technology in other settings, based upon personal or work experience</p>
2	<p>Electronic Health Records</p> <p><u>Discussion post assignment:</u> Explain how the billing capabilities of EHRs are different than the clinical capabilities</p> <p><u>Quiz assignment:</u> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p><u>Discussion post assignment:</u> Identify one way in which data pulled from EHRs could be used to assess quality of care provision</p>
3	<p>Information Infrastructure</p> <p><u>Discussion post assignment:</u> Explain how the information infrastructure in the United States makes it difficult to share information from one hospital to another</p> <p><u>Quiz assignment:</u> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p><u>Topic assignment:</u> Recommend a strategy to improve the information infrastructure and back up recommendation with a citation</p>
4	<p>Information Governance</p> <p><u>Topic assignment:</u> Submit written assignment of a reflection paper on whether or not to allow physicians to use copy and paste in EHRs</p> <p><u>Quiz assignment:</u> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p>None</p>
5	<p>Medical Devices</p> <p><u>Discussion post assignment:</u> Explain how medical devices are distinguishable from other kinds of health information technology</p> <p><u>Quiz assignment:</u> Take quiz on key concepts in online lecture</p>

	Additional graduate student assignments: None
6	Safety requirements for medical devices <i>Topic assignment:</i> Submit written assignment summarizing the safety requirements required by the Food and Drug Administration for medical devices in the United States <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: <i>Topic assignment:</i> Submit written assignment comparing US requirements with requirements in the United Kingdom for medical devices
7	Exam
	Additional graduate student assignments: None
8	Scribes <i>Topic assignment:</i> Submit written assignment with recommendations for the use of patient scribes in ambulatory care <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: None
9	Heuristic Review <i>Topic assignment:</i> Submit written assignment with recommendations for improving the interface for a wellness app on a smartphone <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: <i>Topic assignment:</i> Connect each recommendation to the appropriate usability heuristic
10	Functional Requirements <i>Topic assignment:</i> Submit written assignment with recommendations for improving the usefulness of HIT by adding new functional requirements based upon observing it in use <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: None

11	Scenario Design for Formative Usability Testing <i>Topic assignment:</i> Submit written assignment with a typical scenario to use in a formative usability testing study <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: <i>Topic assignment:</i> Submit written assignment with an extremely challenging ‘edge case’ scenario to use in a formative usability testing study
12	Measuring Usability <i>Topic assignment:</i> Submit written assignment with System Usability Scale (SUS) scores for two software packages <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: <i>Topic assignment:</i> Submit written assignment that also includes an alternative to the System Usability Scale (SUS) score for two software packages and discuss differences between the measures
13	Workflow and Workarounds <i>Topic assignment:</i> Submit written assignment with predicted workarounds with the use of a new technology or app <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: None
14	Clinical Decision Support (CDS) <u><i>Discussion post assignment:</i></u> Identify how a historical event in healthcare was surprising or unexpected in the assigned reading <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: None
15	Exam
	Additional graduate student assignments: None
16	Final Project <i>Final Project Assignment:</i> Submit an individual written report that includes a coherent, integrated manuscript combining results from topic assignments

	for a formative usability study that includes prioritized recommendations for software interface redesign
	Additional graduate student assignments: Include a discussion of how the formative usability study differs from the requirements to do a summative usability study for medical device approval

OFFICE OF DISTANCE EDUCATION AND EVALUATION SYLLABUS FOR DISTANCE EDUCATION

**The Ohio State University
School of Health Sciences and Rehabilitation
Health Information Management and Systems
Spring Semester**

ODEE SYLLABUS: HIMS 5635

**TITLE OF THE COURSE: Quality Management and Performance Improvement in Health
Care**

TERM: Spring 2020

Course overview

Instructor: Emily S. Patterson, PhD

Email address: patterson.150@osu.edu

Phone number: 614-292-4623

Office hours: Tuesday 3-5 PM or by appointment

Course description

Students develop the ability to proficiently use continuous quality management measures and tools including patient safety and satisfaction, regulatory requirements, benchmarking, root cause analysis, outcomes, clinical guidelines and pathways and risk management.

Course learning outcomes

The purpose of the course is for the students to develop the ability to proficiently use lean six sigma, human factors engineering, and patient safety concepts to realistic problems in a hospital environment.

By the end of this course, students should successfully be able to:

1. Apply quality management tools
2. Perform quality improvement analyses and data visualizations
3. Construct performance management measures for benchmarking techniques
4. Apply lean six sigma, human factors engineering, and patient safety concepts during incident investigations and Failure Modes and Effects analyses
5. (Graduate Level) Critique the methods employed in a journal article describing a quality improvement project

Course materials

Textbook: None

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
Phone: 614-688-HELP (4357)
- **Email:** 8help@osu.edu
TDD: 614-688-8743

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen

Technology skills necessary for this specific course

- CarmenConnect text, audio, and video chat
- Collaborating in CarmenWiki
- Recording a slide presentation with audio narration
- Recording, editing, and uploading video

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

Necessary software

- [Microsoft Office 365 ProPlus](#) All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
 - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
 - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.

Grading and faculty response

Grading Policy:

- The University's standard grading scheme will be used for this course.
- Grades will be available for students to view on the course's CARMEN website

Grading: Grades are assigned based on total percentages of the points below and will not be curved. No extra credit will be offered. The grading scale is as follows:

A = 93 – 100	B- = 80 – 82.9	D+=67-69.9
A- = 90 – 92.9	C+ = 77 – 79.9	D = 60-66.9
B+ = 87 – 89.9	C = 73 – 76.9	E = Below 60
B = 83 – 86.9	C- = 70 – 72.9	

Undergraduate Students

Assignment or category	Points
Topic Assignments	30
Participation and Quizzes	30
Exams	20
Final Project	20
Total	100

Graduate Students

Assignment or category	Points
Topic Assignments	30
Participation and Quizzes	30
Exams	20
Final Project	20
Total	100

See course schedule, below, for due dates

Late assignments

Assignments must be submitted by the deadline, otherwise there will be a penalty of one letter grade (or 10% deduction from the total possible points) for each day late

Grading Criteria for Written Assignments

Grade	Description
A	Excellent work <ul style="list-style-type: none"> • Student went significantly above and beyond stated minimum requirements • All key points are addressed • Fully developed logic that is evidence of higher level critical thinking • Writing/though processes are exceptionally clear, precise and organized • Appropriate degree of insight or supporting documentation is provided • No spelling, sentence structure or grammatical errors
B	Above average work <ul style="list-style-type: none"> • Student went above stated minimum requirements • Most key points are addressed • Well-developed logic that is evidence of higher level critical thinking • Writing/though processes are clear, precise and organized • Some insight or supporting documentation is provided • Minimal spelling, sentence structure and grammatical errors
C	Average work <ul style="list-style-type: none"> • Tasks completed, but student did not go above and beyond stated minimum requirements • Some key points are addressed • Average expression of logic that is evidence of higher level critical thinking • Writing/though processes are acceptable in clarity, precision and organization • No insight or supporting documentation is provided • Presence of some spelling, sentence structure and grammatical errors
D E	<ul style="list-style-type: none"> - Below average work - Unacceptable work <p>Instructor reserves the right to determine whether the elements below constitute a grade of D or E:</p> <ul style="list-style-type: none"> • Student did not meet the stated minimum requirements • Few or no key points are addressed • Insufficient development of logic that is evidence of higher level critical thinking • Writing/though processes are unclear and/or disorganized • No insight is provided; incorrect conclusions or supporting documentation may be present • Many spelling, sentence structure and grammatical errors

Faculty feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

Grading and feedback

For large weekly assignments, you can generally expect feedback within **7 days**.

E-mail

I will reply to e-mails within **24 hours on school days**.

Discussion board

I will check and reply to messages in the discussion boards every **48 hours on school days**.

Attendance, participation, and discussions Student participation requirements

Because this is a distance-education course, your attendance is based on your online activity and participation. The following is a summary of everyone's expected participation.

1. Participation and Quizzes

- Logging in: AT LEAST ONCE PER WEEK

Be sure you are logging in to the course in Carmen each week, including weeks with holidays or weeks with minimal online course activity. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible*.

Office hours and live sessions: OPTIONAL OR FLEXIBLE

My office hours will be from Tuesday 3-5 PM and are optional. If you would like to discuss an assignment with me outside of my scheduled office hours, please contact me at the beginning of the week via email at patterson.150@osu.edu to schedule an appointment.

- Participation:
 - Complete readings and other assigned activities. These will give you a firm basis for the course content and allow you to be a fully informed participant.
 - Graduate students are expected to complete relevant assignments noted.

2. Topic Assignments

Homework assignments must be submitted by the deadline via Carmen. Resubmissions for a higher grade are not allowed. Late assignments may be submitted after the deadline with a 10% reduction in potential points for every 24 hours past the deadline.

3. Final Project

Personal experience using the methods is required for an optimal learning experience. This class will include one project in which students will be required to do a professional presentation with associated slides and write a professional report with the accurate use of methods, appropriate technical terminology, and professional writing. Detailed instructions and a grading rubric will be provided in the project description.

CLASS POLICY:

1. Students must take an active role in class for the learning process to be successful. Thus, students are expected to:

- Participate in course modules and team meetings at all times.
- Actively participate in course site and team discussions and activities.
- Objectively and candidly confront and resolve problems via writing using email and course site and phone if needed.
- Confront and cope with critical people problems via writing using email and course site and phone if needed.
- Display receptiveness to ideas/opinions/contributions of others in a team/group situation via writing using email and course site and phone if needed.
- Bring reference/resource materials to the course and/or team meetings as assigned.
- Be prepared for class and team activities by completing reading and written assignments prior to class.

DISCUSSION POLICY:

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online.
- **Citing your sources:** When we have academic discussions, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)
- **Backing up your work:** Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

Other course policies

- **Quizzes and exams:** You must complete the midterm and final exams yourself, without any external help or communication. Weekly quizzes are included as self-checks.
- **Written assignments:** Your written assignments, including discussion posts, should be your own original work. You are allowed to discuss all written assignments with other students in the course, but the assignments are written and submitted by each individual. In formal assignments, you should follow APA style to cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in--but no one else should revise or rewrite your work.
- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.

- **Falsifying research or results:** All research you will conduct in this course is intended to be a learning experience; you should never feel tempted to make your results or your library research look more successful than it was.
- **Collaboration and informal peer-review:** The course includes many opportunities for formal collaboration with your classmates. While study groups and peer-review of major written projects is encouraged, remember that comparing answers on a quiz or assignment is not permitted. If you're unsure about a particular situation, please feel free just to ask ahead of time.
- **Group projects:** This course includes group projects, which can be stressful for students when it comes to dividing work, taking credit, and receiving grades and feedback. I have attempted to make the guidelines for group work as clear as possible for each activity and assignment, but please let me know if you have any questions.

Ohio State's academic integrity policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an "excuse" for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Trigger warning

Some contents of this course may involve media that may be triggering to some students due to descriptions of and/or scenes depicting acts of violence, acts of war, or sexual violence and its aftermath. If needed, please take care of yourself while watching/reading this material (leaving classroom to take a water/bathroom break, debriefing with a friend, contacting a Sexual Violence Support Coordinator at 614-292-1111, or Counseling and Consultation Services at 614-292-5766, and contacting the instructor if needed). Expectations are that we all will be respectful of our classmates while consuming this media and that we will create a safe space for each other. Failure to show respect to each other may result in dismissal from the class.

Statement on title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Accessibility accommodations for students with disabilities Requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact your instructor privately as soon as possible to discuss your specific needs. Discussions are confidential.

In addition to contacting the instructor, please contact the Student Life Disability Services at [614-292- 3307](tel:614-292-3307) or ods@osu.edu to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University. Go to <http://ods.osu.edu> for more information.

Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Carmen \(Canvas\) accessibility](#)
- Streaming audio and video
- Synchronous course tools

Your mental health!

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact the College of Pharmacy Office of Student Services in room 150 Parks Hall (614-292-5001) OR OSU Counseling and Consultation Services (614-292-5766) for assistance, support and advocacy. This service is free and confidential.

Course schedule undergraduate and graduate (tentative)

Week	Topics, Readings, Assignments, Deadlines
1	<p>History of Quality Improvement</p> <p><i>Discussion post assignment:</i> Identify how an approach focused on identifying defects in assembly line manufacturing might not apply perfectly to a healthcare situation</p> <p><i>Quiz assignment:</i> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p><i>Discussion post assignment:</i> Describe a prior experience with quality improvement initiatives in your job or identify how you could do a quality improvement initiative in your job</p>
2	<p>Performance Improvement Model; Plan-Do-Study-Act cycle</p> <p><i>Discussion post assignment:</i> Explain how the PDSA cycle example on obesity screening relates to the concepts in the Plan, Do, and Study aspects of the cycle</p> <p><i>Quiz assignment:</i> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p>Identify a likely reason why a PDSA cycle might fail and describe how you could minimize the risk of failure</p>
3	<p>Benchmarking</p> <p><i>Topic assignment:</i> Submit written assignment on benchmarking hospital infection rates for surgical site infections</p> <p><i>Quiz assignment:</i> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p><i>Topic assignment:</i> Identify a best practice that could implemented to reduce surgical site infections based on a literature search on Medline</p>
4	<p>Six Sigma: DMAIC Cycle</p> <p><i>Topic assignment:</i> Submit written assignment of a reflection paper on the DMAIC example provided in an online reading</p> <p><i>Quiz assignment:</i> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p><i>Topic assignment:</i> Discuss why the gains achieved in the reading could not be sustained beyond the study period and how this risk could be mitigated</p>
5	<p>Outcome measures and measurement</p>

	<p><i>Topic assignment:</i> Submit written assignment on how an outcome measure could be modified to be more valid and feasible</p> <p><i>Quiz assignment:</i> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p><i>Topic assignment:</i> Submit written assignment on how an outcome measure could be modified to minimize the risk of organizations intentionally ‘gaming’ the system</p>
6	<p>Data visualizations and analytics</p> <p><i>Topic assignment:</i> Submit written assignment creating a Pareto chart from patient satisfaction comments</p> <p><i>Quiz assignment:</i> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p><i>Topic assignment:</i> Discuss how using the Pareto principle from a Pareto chart analysis differs from using expert opinion to guide a PDSA cycle in a quality improvement initiative</p>
7	Exam
	<p>Additional graduate student assignments:</p> <p>None</p>
8	<p>Statistical Process Control</p> <p><i>Topic assignment:</i> Submit written assignment creating a control chart using a provided dataset of patient waiting times in the Emergency Department before and after a quality improvement project</p> <p><i>Quiz assignment:</i> Take quiz on key concepts in online lecture</p>
	<p>Additional graduate student assignments:</p> <p><i>Topic assignment:</i> Test the normal distribution assumption in order to assess whether a control chart can be validly used</p>
9	<p>Peer review of statistical process control assignments</p> <p><i>Discussion post assignment:</i> Post how long the peer review conversation was and identify three top insights gleaned from peer review discussion about when and how to use statistical process control in healthcare</p>
	<p>Additional graduate student assignments:</p> <p>Only graduate students will review other graduate students’ work</p>
10	<p>Human Factors in Patient Safety</p> <p><i>Discussion post assignment:</i> Post an idea to improve patient safety in hospital care based upon personal or work experience</p>

	<i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: None
11	Incident reporting and Five Whys Analysis <i>Topic assignment:</i> Submit written assignment with a Five Whys analysis of an incident based upon reviewing an accident investigation report <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: None
12	Failure Modes and Effects (FMEA) analysis <i>Topic assignment:</i> Submit written assignment conducting an FMEA for a medical device <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: None
13	Safety II Perspective <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: <i>Topic assignment:</i> Reflection paper on online reading
14	Workarounds <i>Quiz assignment:</i> Take quiz on key concepts in online lecture
	Additional graduate student assignments: None
15	Exam
	Additional graduate student assignments: None
16	Final Project <i>Final Project Assignment:</i> Submit an individual written report that includes a coherent, integrated manuscript combining results from topic assignments
	Additional graduate student assignments: Find a journal article with comparable methods and discuss the differences in methods between the final project and the published article, including an explicit critique of one of the methods used in the published article that was used in the final project

**OFFICE OF DISTANCE EDUCATION AND EVALUATION SYLLABUS FOR DISTANCE
EDUCATION**

The Ohio State University

School of Health Sciences and Rehabilitation

Health Information Management and Systems

Autumn Semester

ODEE SYLLABUS: HIMS 5900

TITLE OF THE COURSE: Human Factors in Healthcare

TERM:

Course overview

Instructor: Emily S. Patterson, PhD

Email address: patterson.150@osu.edu

Phone number: 614-292-4623

Office hours: Tuesday 3-5 PM or by appointment

Course description

Students learn human factors concepts and methods that are used in analyzing root and contributing causes to adverse events and developing corrective actions to improve patient safety. There is emphasis on formative evaluation methodologies and implementation science theory.

Course learning outcomes

Individual and team cognition is aid-able with health information systems and train-able with apprenticeship learning and guided coaching techniques. Understanding the theoretical basis for proposed initiatives to improve patient safety and quality can aid critical evaluation of feasibility, likelihood to make a positive impact, and potential issues to proactively avoid when an innovation is introduced.

By the end of this course, students should successfully be able to:

1. Utilize human factors concepts
2. Discuss the theoretical basis for patient and organization safety initiatives
3. Compare implementation science theoretical frameworks
4. Critique a formative evaluation plan
5. (Graduate Level) Design a formative evaluation

Course Topic Outline

1. Models of human error: Swiss cheese model, Normal accidents, Second Victim
2. Perspectives on patient safety: Safety I, Safety II
3. Human factors concepts: Hindsight bias, blunt vs. sharp end pressures
4. Implementation science theoretical frameworks: RE-AIM, Precede-Proceed Model, Dynamic Sustainability Framework, PRISM, CFIR
5. Critique a plan for formative evaluation of an intervention
 - Identify the problem being addressed
 - Identify the root and contributing causes of the problem
 - Describe the implementation science theoretical framework guiding the intervention design
 - Identify and categorize the level of corrective actions bundled in a patient safety intervention
 - Critique the plan to do a formative evaluation of the intervention
6. (Graduate level) Create a plan for formative evaluation of an intervention
 - Describe the problem being addressed
 - Describe the root and contributing causes of the problem
 - Describe the implementation science theoretical framework
 - Describe and categorize the level of corrective actions bundled in a patient safety intervention
 - Create a plan to do a formative evaluation of the intervention

Course materials

Textbook:

The Field Guide to Understanding Human Error by Sidney Dekker

Selected readings:

Fischhoff B. Hindsight does not equal foresight: the effect of outcome knowledge on judgment under uncertainty. Qual Saf Health Care 2003; 12:304-312.

NIH Toolkit: <https://www.fic.nih.gov/About/center-global-health-studies/neuroscience-implementation-toolkit/Pages/methodologies-frameworks.aspx>. Accessed November 6, 2018.

Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infections in the ICU. N Eng J Med 2006; 355: 2725–32.

Patterson, E. S., Cook, R. I., & Render, M. L. (2002). Improving patient safety by identifying side effects from introducing bar coding in medication administration. Journal of the American Medical Informatics Association, 9(5), 540-553.

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available

at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>

Phone: 614-688-HELP (4357)

- **Email:** 8help@osu.edu

TDD: 614-688-8743

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen

Technology skills necessary for this specific course

- CarmenConnect text, audio, and video chat
- Collaborating in CarmenWiki
- Recording a slide presentation with audio narration
- Recording, editing, and uploading video

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

Necessary software

- [Microsoft Office 365 ProPlus](#) All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
 - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
 - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.

Grading and faculty response

Grading: Grades are assigned based on total percentages of the points below and will not be curved. No extra credit will be offered. The grading scale is as follows:

A = 93 – 100	B- = 80 – 82.9	D+=67-69.9
A- = 90 – 92.9	C+ = 77 – 79.9	D = 60-66.9
B+ = 87 – 89.9	C = 73 – 76.9	E = Below 60
B = 83 – 86.9	C- = 70 – 72.9	

Undergraduate students

Assignment or category	Points
Participation	4
Homework	36
Exams	45
Final Project	15
Total	100

Graduate students

Assignment or category	Points
Participation	4
Homework	36
Exams	45
Final Project	15
Total	100

See course schedule, below, for due dates

Late assignments

Assignments must be submitted by the deadline, otherwise there will be a penalty of one letter grade (or 10% deduction from the total possible points) for each day late.

Grade	Description
A	Excellent work <ul style="list-style-type: none"> • Student went significantly above and beyond stated minimum requirements • All key points are addressed • Fully developed logic that is evidence of higher level critical thinking • Writing/though processes are exceptionally clear, precise and organized • Appropriate degree of insight or supporting documentation is provided • No spelling, sentence structure or grammatical errors
B	Above average work <ul style="list-style-type: none"> • Student went above stated minimum requirements • Most key points are addressed • Well-developed logic that is evidence of higher level critical thinking • Writing/though processes are clear, precise and organized • Some insight or supporting documentation is provided • Minimal spelling, sentence structure and grammatical errors
C	Average work <ul style="list-style-type: none"> • Tasks completed, but student did not go above and beyond stated minimum requirements • Some key points are addressed • Average expression of logic that is evidence of higher level critical thinking • Writing/though processes are acceptable in clarity, precision and organization • No insight or supporting documentation is provided • Presence of some spelling, sentence structure and grammatical errors
D E	- Below average work - Unacceptable work <p>Instructor reserves the right to determine whether the elements below constitute a grade of D or E:</p> <ul style="list-style-type: none"> • Student did not meet the stated minimum requirements • Few or no key points are addressed • Insufficient development of logic that is evidence of higher level critical thinking • Writing/though processes are unclear and/or disorganized • No insight is provided; incorrect conclusions or supporting documentation may be present • Many spelling, sentence structure and grammatical errors

Faculty feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

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For large weekly assignments, you can generally expect feedback within **7 days**.

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I will reply to e-mails within **24 hours on school days**.

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1. Participation

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Be sure you are logging in to the course in Carmen each week, including weeks with holidays or weeks with minimal online course activity. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible*.

Office hours and live sessions: OPTIONAL OR FLEXIBLE

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- Participation:
 - Complete readings and other assigned activities. These will give you a firm basis for the course content and allow you to be a fully informed participant.
 - Graduate students are expected to complete relevant assignments noted.

2. Homework Graded Assignments

Homework assignments must be submitted by the deadline via Carmen. Resubmissions for a higher grade are not allowed. Late assignments may be submitted after the deadline with a 10% reduction in potential points for every 24 hours past the deadline.

3. Exams

There will be three graded exams. The exams will be time limited, and will consist of multiple choice questions, matching, completion and short answer questions. If a student misses the scheduled exam without prior approval, no make-up session will be allowed. These exams will be offered online.

4. Final Project

Personal experience using the methods is required for an optimal learning experience. This class will include one project in which students will be required to write a professional report with the accurate use of methods, appropriate technical terminology, and professional writing. Detailed instructions and a grading rubric will be provided in the project description.

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- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.
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If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Trigger warning

Some contents of this course may involve media that may be triggering to some students due to descriptions of and/or scenes depicting acts of violence, acts of war, or sexual violence and its aftermath. If needed, please take care of yourself while watching/reading this material (leaving classroom to take a water/bathroom break, debriefing with a friend, contacting a Sexual Violence Support Coordinator at 614-292-1111, or Counseling and Consultation Services at 614-292-5766, and contacting the instructor if needed). Expectations are that we all will be respectful of our classmates while consuming this media and that we will create a safe space for each other. Failure to show respect to each other may result in dismissal from the class.

Statement on title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Accessibility accommodations for students with disabilities Requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact your instructor privately as soon as possible to discuss your specific needs. Discussions are confidential.

In addition to contacting the instructor, please contact the Student Life Disability Services at 614-292- 3307 or ods@osu.edu to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University.

Go to <http://ods.osu.edu> for more information.

Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Carmen \(Canvas\) accessibility](#)
- Streaming audio and video
- Synchronous course tools

Your mental health!

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact the College of Pharmacy Office of Student Services in room 150 Parks Hall (614-292-5001) OR OSU Counseling and Consultation Services (614-292-5766) for assistance, support and advocacy. This service is free and confidential.

Course schedule undergraduate and graduate (tentative)

Week	Dates	Topics, Readings, Assignments, Deadlines
1		Models of human error: Swiss cheese model <u>Reading: Textbook Chapter 1</u> <u>Weekly quiz assignment: On reading</u> <u>Discussion post assignment: System contributors to Fox River Grove school bus accident</u>
		Additional graduate student assignments: Describe in de-identified fashion an incident that you have experienced in healthcare and identify similarities to the Fox River Grove accident

2		<p>Models of human error: Second victim, Normal accidents</p> <p><u>Reading: Textbook Chapter 2</u> <u>Weekly quiz assignment: On reading</u></p> <p><u>Discussion post assignment: Describe important elements for Second Victims hospital program following a patient's death</u></p>
		<p>Additional graduate student assignments:</p> <p>None</p>
3		<p>Perspectives on patient safety: Safety I, Safety II</p> <p><u>Reading: Textbook Chapter 3</u> <u>Weekly quiz assignment: On reading</u></p> <p><u>Discussion post assignment: Describe important elements for Second Victims hospital program following a patient's death</u></p>
		<p>Additional graduate student assignments:</p> <p>Describe a range of perspectives on whether human error is a root cause of an unfortunate outcome which you might experience in your work setting</p>
4		<p>Human factors concepts: Hindsight bias, macrocognition, blunt vs. sharp end pressures</p> <p><u>Reading: Fischhoff article (available on Carmen)</u> <u>Weekly quiz assignment: On reading</u></p> <p><u>Discussion post assignment: Describe impact of outcome knowledge of root cause of sentinel event</u></p>
		<p>Additional graduate student assignments:</p> <p>None</p>
5		Exam 1
6		<p>Implementation science theoretical frameworks: RE-AIM, Precede-Proceed Model</p> <p><u>Reading: NIH toolkit first half (available on Carmen)</u> <u>Weekly quiz assignment: On reading</u></p> <p><u>Discussion post assignment: Describe muddiest point for each of three theoretical frameworks</u></p>
		<p>Additional graduate student assignments:</p> <p>Critique one theoretical framework</p>

7		<p>Implementation science theoretical frameworks: Dynamic Sustainability Framework, PRISM, CFIR</p> <p><u>Reading: NIH toolkit second half (available on Carmen)</u> <u>Weekly quiz assignment: On reading</u></p> <p><u>Discussion post assignment: Identify two most similar and two most different theoretical frameworks</u></p>
		<p>Additional graduate student assignments:</p> <p>Critique one theoretical framework</p>
8	Week of Oct. 7 th	<p>Implementation science theoretical framework</p> <p><u>Reading: Pronovost paper (available on Carmen)</u> <u>Weekly quiz assignment: On reading</u></p> <p><u>Discussion post assignment: Identify theoretical framework</u></p>
		<p>Additional graduate student assignments:</p> <p>Discuss how a different theoretical framework might have impacted the study design and outcomes</p>
9	Week of Oct. 14 th	<p>Implementation science theoretical framework</p> <p><u>Reading: Pronovost paper (available on Carmen)</u> <u>Weekly quiz assignment: On reading</u></p> <p><u>Homework assignment: Compare and contrast two theoretical frameworks for implementation science</u></p>
		<p>Additional graduate student assignments:</p> <p>Select a theoretical framework for use in a work project and justify selection</p>
10	Week of Oct. 21 st	Exam 2
		<p>Additional graduate student assignments:</p> <p>None</p>
11	Week of Oct. 28 th	<p>Formative evaluation of an intervention</p> <p><u>Reading: Patterson 2002 article (available on Carmen)</u> <u>Weekly quiz assignment: On reading</u></p> <p><u>Discussion post assignment: Discuss how formative evaluation methods can reveal workarounds to the intended use of a system</u></p>
		<p>Additional graduate student assignments:</p>

		Make a recommendation to reduce the prevalence of one of the identified workarounds
12	Week of Nov. 4 th	Formative evaluation of an intervention Reading: Student-identified formative evaluation journal article
		Additional graduate student assignments: Identify a primary measure for a summative evaluation to assess whether recommendations generated from a formative evaluation are effective
13	Week of Nov. 11 th	Formative evaluation of an intervention Reading: Student-identified formative evaluation journal article <i>Homework assignment:</i> Identify and categorize the level of corrective actions bundled in a patient safety intervention, Critique the intervention employed to improve patient safety
		Additional graduate student assignments: Design an alternative intervention that addresses one critique
14	Week of Nov. 18 th	Reading: Student-identified formative evaluation journal article <i>Homework assignment:</i> Critique a plan for formative evaluation of an intervention <ul style="list-style-type: none"> • Identify the problem being addressed • Identify the root and contributing causes of the problem • Describe the implementation science theoretical framework guiding the intervention design • Identify and categorize the level of corrective actions bundled in a patient safety intervention • Critique the plan to do a formative evaluation of the intervention
		Additional graduate student assignments: Recommend modification to plan to address one critique
15	Week of Nov. 25 th	<i>Assignment:</i> Conduct a peer review of formative evaluation submitted by other students the prior week
		Additional graduate student assignments: No additional assignment, but note that graduate students will each review homework assignments of other graduate students, not of undergraduate students
16	Week of Dec. 2 nd	Exam 3 <i>Final Project Assignment:</i> Formative evaluation
		Additional graduate student assignments: Create a plan for formative evaluation of an intervention

		<ul style="list-style-type: none"> • Describe the problem being addressed • Describe the root and contributing causes of the problem • Describe the implementation science theoretical framework • Describe and categorize the level of corrective actions bundled in a patient safety intervention • Create a plan to do a formative evaluation of the intervention
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**OFFICE OF DISTANCE EDUCATION AND EVALUATION SYLLABUS FOR DISTANCE
EDUCATION**

The Ohio State University

School of Health Sciences and Rehabilitation

Health Information Management and Systems

Spring Semester

ODEE SYLLABUS: HIMS 5700

TITLE OF THE COURSE: Project in Health Information Management and Systems

TERM: Spring

Course overview

Instructor: Emily S. Patterson, PhD

Email address: patterson.150@osu.edu

Phone number: 614-292-4623

Office hours: Tuesday 3-5 PM or by appointment

Course description

Students apply theoretical knowledge acquired from the certificate program to a project that closely resembles what would be done in a realistic work environment. During the project, students apply critical thinking skills to solve a real-world problem, from assessing the problem itself to applying suitable and appropriate methods to generate one or more solutions to the problem.

Course learning outcomes

The purpose of the course is for the students to apply theoretical knowledge to a realistic problem in a work setting that is amenable to being solved using methods learned from the certificate program. Both the problem statements for the project assignments and the associated datasets, interfaces, devices, websites, and other materials closely resemble actual situations experienced in a work environment.

Depending upon the project's complexity and prior work experience of students, students will either work individually or in a small teams on a problem statement, which has been specified by a faculty member, representative from the target industry, or other stakeholder. A list of possible projects will be posted at the time of the first class so students can immediately align themselves with problems statements corresponding to their individual interests and potential team members. Pending approval by the instructor, students or teams are free to design their own problem statement and

construct their own dataset or identify their own website or medical device. As warranted, students may be permitted to organize into teams of two to three participants, with teams larger than three discouraged. Each project team will be supervised by the faculty member, who will formally approve or require specific revisions to the final problem statements and composition of teams early in the semester.

An illustrative project example is to conduct a formative usability test of the Contour Bayer Blood Glucose Meter and recommendation design and training modifications to reduce the risk of patient harm. 5-7 test participants will be recruited representing the target population for use of the device, the student will design and execute the study, and recommendations will be documented in the (NISTIR 7742) Customized Common Industry Format Template for usability testing results.

By the end of this course, students should successfully be able to:

1. Apply health information management and human factors concepts
2. Apply health information management and human factors methods
3. Critique an existing product or solution
4. Recommend modifications to an existing product or solution to facilitate intuitive and safe use
5. Write a report on their project documenting their methods, findings, and recommendations
6. (Graduate Level) Design an alternative integrated solution

Course Topic Outline

The weekly discussion topics will change from class to class, and will be based upon student selection using anonymous voting. Examples of topics include creating project charters, defining roles and tracking responsibilities for roles, working with diverse personalities, eliciting user needs, planning tests, strategies to engage stakeholders, health information management principles, theoretical frameworks for research, and strategies for social media announcements. Topic voting will be conducted at the beginning and midpoint of the class, directly after students/teams present on their progress to date, challenges that they have encountered, and revised plan for the remainder of the course. The presentations will be shared with assigned students, who will be required to make constructive suggestions to address challenges and modify the approach. A final presentation will take place during the last week of class. All students will be required to submit an eportfolio that includes the final presentation, final report, as well as all other deliverables from projects done in prior classes during the certificate program.

Course materials

Textbook: None

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available

at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>

Phone: 614-688-HELP (4357)

- **Email:** 8help@osu.edu

TDD: 614-688-8743

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen

Technology skills necessary for this specific course

- CarmenConnect text, audio, and video chat
- Collaborating in CarmenWiki
- Recording a slide presentation with audio narration
- Recording, editing, and uploading video

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

Necessary software

- [Microsoft Office 365 ProPlus](#) All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
 - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
 - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.

Grading and faculty response

Grading Policy:

- The University's standard grading scheme will be used for this course.
- Grades will be available for students to view on the course's CARMEN website

Grading: Grades are assigned based on total percentages of the points below and will not be curved. No extra credit will be offered. The grading scale is as follows:

A = 93 – 100	B- = 80 – 82.9	D+=67-69.9
A- = 90 – 92.9	C+ = 77 – 79.9	D = 60-66.9
B+ = 87 – 89.9	C = 73 – 76.9	E = Below 60
B = 83 – 86.9	C- = 70 – 72.9	

Undergraduate Students

Assignment or category	Points
Participation	5
Topic Assignments	30
Midpoint Presentation	15
Formative comments on midpoint presentation	5
Final Presentation	20
Final report	20
Eportfolio	5
Total Points for the Course	100

Graduate Students

Assignment or category	Points
Participation	5
Topic Assignments	30
Midpoint Presentation	15

Formative comments on midpoint presentation	5
Final Presentation including demonstration of integrated solution	20
Final report including design of integrated solution	20
Eportfolio	5
Total Points for the Course	100

See course schedule, below, for due dates

Late assignments

Assignments must be submitted by the deadline, otherwise there will be a penalty of one letter grade (or 10% deduction from the total possible points) for each day late

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The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an "excuse" for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Trigger warning

Some contents of this course may involve media that may be triggering to some students due to descriptions of and/or scenes depicting acts of violence, acts of war, or sexual violence and its aftermath. If needed, please take care of yourself while watching/reading this material (leaving classroom to take a water/bathroom break, debriefing with a friend, contacting a Sexual Violence Support Coordinator at 614-292-1111, or Counseling and Consultation Services at 614-292-5766, and contacting the instructor if needed). Expectations are that we all will be respectful of our classmates while consuming this media and that we will create a safe space for each other. Failure to show respect to each other may result in dismissal from the class.

Statement on title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Accessibility accommodations for students with disabilities requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact your instructor privately as soon as possible to discuss your specific needs. Discussions are confidential.

In addition to contacting the instructor, please contact the Student Life Disability Services at 614-292- 3307 or ods@osu.edu to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University.

Go to <http://ods.osu.edu> for more information.

Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Carmen \(Canvas\) accessibility](#)
- Streaming audio and video
- Synchronous course tools

Your mental health!

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact the College of Pharmacy Office of Student Services in room 150 Parks Hall (614-292-5001) OR OSU Counseling and Consultation Services (614-292-5766) for assistance, support and advocacy. This service is free and confidential.

Course schedule undergraduate and graduate (tentative)

Week	Topics, Readings, Assignments, Deadlines
1	<p>Select problem</p> <p><i>Discussion post assignment:</i> Pick top three problem statements and provide explanation for selection and specify preference for an individual project, two-person team, or three-person team</p>
	<p>Additional graduate student assignments:</p> <p><i>Discussion post assignment:</i> Describe prior experience with one of the top three selected problem statements and identify knowledge gaps during the prior experience</p>
2	<p>Create project timeline and assign tasks</p> <p><i>Discussion post assignment:</i> Describe important elements for Second Victims hospital program following a patient's death</p>
	<p>Additional graduate student assignments:</p> <p>None</p>
3	<p>Topic #1</p> <p><i>Topic assignment:</i> Submit written assignment</p>
	<p>Additional graduate student assignments:</p> <p><i>Topic assignment:</i> Share material on topic to class via recorded presentation and electronic resources</p>
4	<p>Topic #2</p> <p><i>Topic assignment:</i> Submit written assignment</p>
	<p>Additional graduate student assignments:</p> <p><i>Topic assignment:</i> Share material on topic to class via recorded presentation and electronic resources</p>
5	<p>Topic #3</p> <p><i>Topic assignment:</i> Submit written assignment</p>
	<p>Additional graduate student assignments:</p> <p><i>Topic assignment:</i> Share material on topic to class via recorded presentation and electronic resources</p>
6	<p>Topic #4</p> <p><i>Topic assignment:</i> Submit written assignment</p>
	<p>Additional graduate student assignments:</p>

	<i>Topic assignment:</i> Share material on topic to class via recorded presentation and electronic resources
7	Topic #5 <i>Topic assignment:</i> Submit written assignment
	Additional graduate student assignments: <i>Topic assignment:</i> Share material on topic to class via recorded presentation and electronic resources
8	Midpoint presentation <i>Midpoint Presentation assignment:</i> Videotape a 15 minute PowerPoint presentation where all team members contribute equally
	Additional graduate student assignments: None
9	Peer review of midpoint presentations <u><i>Discussion post assignment:</i> Post how long the peer review conversation was and identify three top insights gleaned from peer review discussion and how one will change the planned approach to the project</u>
	Additional graduate student assignments: Only graduate students will review other graduate students' work
10	Topic #6 <i>Topic assignment:</i> Submit written assignment
	Additional graduate student assignments: <i>Topic assignment:</i> Share material on topic to class via recorded presentation and electronic resources
11	Topic #7 <i>Topic assignment:</i> Submit written assignment
	Additional graduate student assignments: <i>Topic assignment:</i> Share material on topic to class via recorded presentation and electronic resources
12	Topic #8 <i>Topic assignment:</i> Submit written assignment
	Additional graduate student assignments: <i>Topic assignment:</i> Share material on topic to class via recorded presentation and electronic resources
13	Topic #9

	<i>Topic assignment:</i> Submit written assignment
	Additional graduate student assignments: <i>Topic assignment:</i> Share material on topic to class via recorded presentation and electronic resources
14	Final presentation <i>Final Presentation assignment:</i> Videotape a 15 minute PowerPoint presentation where all team members contribute equally
	Additional graduate student assignments: Design an alternative integrated solution
15	Final report <i>Final Report assignment:</i> Submit final report
	Additional graduate student assignments: Document an alternative integrated solution
16	EPortfolio <i>EPortfolio Assignment:</i> Submit an individual ePortfolio that includes the final presentation, final report, and deliverables from other certificate classes
	Additional graduate student assignments: Include an alternative integrated solution in the Eportfolio



THE OHIO STATE UNIVERSITY

College of
Medicine School of Health &
Rehabilitation Sciences

Graduate Studies Committee

228 Atwell Hall
453 W. 10th Avenue
Columbus, OH 43210-2205

614-292-5645 Phone
614-292-0210 Fax

August 26, 2019

Graduate Studies Committee
School of Health and Rehabilitation Sciences
The Ohio State University

Dear HRS Curriculum Committee:

The Graduate Studies Committee of the School of Health and Rehabilitation Sciences has reviewed and voted to approve both the course and certificate proposal by Dr. Jennifer Garvin, "HIMS 5700 - Project in Health Information Management and Systems."

The Committee considers the course and certificate to be of high-quality and valuable for our graduate students. The proposed certificate is intended for graduate students as a Post-Bachelor Degree Stand-Alone Certificate (Type 3a), which is the first step in a coherent strategy of proposing multiple graduate and undergraduate certificates in HIMS in order to grow in the School of Health and Rehabilitation Sciences and the healthcare and information management field. The proposed online course is intended to accompany the certificate and structured so that students complete an applied project as an independent study while mentored by a faculty member.

The goals and learning objectives of the course align with the School of Health and Rehabilitation Sciences' overall mission and will allow students to apply, critique, recommend, design and write integrated methods and solutions to health information and management issues and gain exposure to theoretical knowledge that would resemble what would be done in a realistic work environment. During the project, students have the opportunity to apply critical thinking skills to solve real-world problems, from assessing the problem itself to applying suitable and appropriate methods to generate one or more solutions.

Thank you for reviewing this request. Please let me know if you have any questions.

Best,

Amanda M. Agnew, PhD

Graduate Program Director and Associate Professor
Health and Rehabilitation Sciences

amanda.agnew@osumc.edu



The School of Health and Rehabilitation Sciences
Usability and User Design Experience (UX) in Healthcare
Certificate, Undergraduate

The School of Health and Rehabilitation Sciences (HRS) is a School in The Ohio State University College of Medicine. The School is nationally recognized as a leader in practice-based health care education. For more than five decades, the School has prepared students to achieve personal and professional excellence, as they pursue an exciting career in healthcare.

PROGRAM OVERVIEW

The purpose of the Usability and User Design Experience (UX) in Healthcare Certificate program is to cross-train students with healthcare knowledge and experience in User Experience design methods. All required courses are offered online.

User experience (UX) design is the process of creating products that provide meaningful and relevant experiences to users. This curriculum is designed to prepare undergraduate, graduate and post-professional students with a foundation of User Experience and human factors principles and methods that will translate ultimately into reduced patient harm and reduced economic risks following unfortunate patient outcomes, particularly in hospital settings.

ADMISSION & APPLICATION PROCEDURES

Applicants for the Undergraduate Academic Certificate Program Type 1a Stand Alone Usability and User Design Experience (UX) in Healthcare certificate must meet the following requirements. Domestic and International applicants are eligible for this certificate.

- i. An earned high school diploma;
- ii. A minimum 2.0 cumulative GPA (on a 4.0 scale) in all coursework taken at all accredited higher education institutions; All post-secondary coursework is considered;
- iii. Completion of an online application available at [XXXX](#) by the stated deadline with all required supplemental materials.

CERTIFICATE REQUIREMENTS

To obtain the certificate, student must successfully complete all four required courses (12 credit hours) with a minimum C- grade required for each course. Students must also maintain a minimum 2.0 cumulative GPA in the program. Due to the nature of the program, transfer credit cannot meet any certificate requirements. Additionally, fifty percent of the certificate course work must be distinct from current undergraduate degree coursework.

Prior to the enrollment of the last semester, an application to graduate must be submitted to the HRS Student Services Office to formally receive the certificate at the end of the semester of course completion. Students who successfully complete the certificate are not eligible to participate in graduation ceremonies, except if they are also graduating from a degree-seeking program that same semester. If they are not graduating from a degree-seeking program, a completion document in the form of a certificate will be mailed to the student after the semester of completion.

HIMS 5650 (3)-Information Technology

HIMS 5700 (3)-HIMS Project

HIMS 5900 (3)-Human Factors in Healthcare

HIMS 5635 (3)-Quality Management and Performance Improvement in Health Care



SCHEDULING PLAN

Although it is required to take HIMS 5700 as the last course of the certificate, the remaining professional curriculum can be completed in any order. The following plan demonstrates how students may complete the certificate in a minimum of two semesters or longer.

Semester	Sample 1 (9 months)	Sample 2 (21 months)
Autumn	HIMS 5650 Information Technology HIMS 5635 Quality Management and Performance Improvement in Health Care	HIMS 5650 Information Technology
Spring	HIMS 5900 Human Factors in Healthcare HIMS 5700 HIMS Project	HIMS 5900 Human Factors in Healthcare,
Summer		HIMS 5635 Quality Management and Performance Improvement in Health Care
Autumn		HIMS 5700 HIMS Project

ADDITIONAL INFORMATION

- It is strongly recommended that prior to applying to the certificate program, prospective students schedule an appointment with a certificate advisor in the School's Student Services Office.
- Tuition for certificates programs can be found at <https://registrar.osu.edu>.
- International applicants: countries may or may not regulate distance education provided to students in its jurisdiction and may or may not require foreign higher education institutions to comply with distance education regulations. At this time, Ohio State University cannot guarantee that a program meets curriculum requirements in your country.

Student Services Office

School of Health and Rehabilitation Sciences
206 Atwell Hall
453 West 10th Ave.
Columbus, Ohio 43210
614-292-1706
HRSCertificates@osumc.edu

Faculty Advisor

Emily Patterson, PhD
Associate Professor, HIMS
543 Atwell Hall
453 West 10th Ave.
Columbus, Ohio 43210
614-292-4623
Patterson.150@osu.edu



The School of Health and Rehabilitation Sciences ***Usability and User Design Experience (UX) in Healthcare*** ***Certificate, Graduate***

The School of Health and Rehabilitation Sciences (HRS) is a School in The Ohio State University College of Medicine. The School is nationally recognized as a leader in practice-based health care education. For more than five decades, the School has prepared students to achieve personal and professional excellence, as they pursue an exciting career in healthcare.

PROGRAM OVERVIEW

The purpose of the Usability and User Design Experience (UX) in Healthcare Certificate program is to cross-train students with healthcare knowledge and experience in User Experience design methods.

User experience (UX) design is the process of creating products that provide meaningful and relevant experiences to users. This curriculum is designed to prepare undergraduate, graduate and post-professional students with a foundation of User Experience and human factors principles and methods that will translate ultimately into reduced patient harm and reduced economic risks following unfortunate patient outcomes, particularly in hospital settings. All required courses are offered online.

ADMISSION & APPLICATION PROCEDURES

Applicants for the Graduate Academic Certificate Program Type 3a Stand Alone Usability and User Design Experience (UX) in Healthcare certificate must meet the following requirements: Domestic and International applicants are eligible for this certificate.

1. Applicants for the graduate certificate must meet **ONE** of the following requirements to be considered for admission.
 - i. Eligible for admission to the Graduate School at Ohio State University as evidenced by:
 - A baccalaureate or professional degree (or equivalent foreign credential) from an accredited college or university, earned by the expected date of entry into the certificate program;
 - A minimum of a 3.0 cumulative GPA (on a 4.0 scale) for the last degree earned;
 - For international applicants and those who have held the status of U.S. permanent resident for less than one year from the first day of the first term of enrollment and are not currently an Ohio State graduate student, submission of TOEFL or IELTS scores.
 - ii. Currently enrolled as a degree-seeking student in a graduate program at Ohio State University.
2. Complete an application at least one semester prior to intended enrollment in the initial required course.
 - i. Applicants currently enrolled as a degree-seeking student in a graduate program at Ohio State University, must complete a Graduate Intra-University Transfer application located at XXX.
 - ii. All other applicants must complete a graduate level application located at XXX.

CERTIFICATE REQUIREMENTS

To obtain the certificate, student must successfully complete all four required courses (12 credit hours) with a minimum C- grade required for each course. A minimum 3.0 cumulative GPA is also required for all certificate coursework. Due to the nature of the program, transfer or EM credit cannot meet any course requirements. Additionally, fifty percent of the certificate course work must be distinct from current graduate degree coursework.

Prior to the enrollment of the last required course, an Application for Certificate Completion must be submitted via GradForms (<https://gradforms.osu.edu>) to formally receive the certificate at the end of the semester of course completion. Students who successfully complete the certificate are not eligible to participate in graduation ceremonies, except if they are also graduating from a degree-seeking program that same semester. If they are not graduating from a degree-seeking program, a completion document in the form of a certificate will be mailed to the student after the semester of completion.

HIMS 5650 (3)-Information Technology
HIMS 5700 (3)-HIMS Project

HIMS 5900 (3)-Human Factors in Healthcare
HIMS 5635 (3)-Quality Management and Performance Improvement in Health Care



SCHEDULING PLAN

Although it is required to take HIMS 5700 as the last course of the certificate, the remaining professional curriculum can be completed in any order. The following plan demonstrates how students may complete the certificate in a minimum of two semesters or longer.

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Summer		HIMS 5635 Quality Management and Performance Improvement in Health Care
Autumn		HIMS 5700 HIMS Project

ADDITIONAL INFORMATION

- It is strongly recommended that prior to applying to the certificate program, prospective students schedule an appointment with a certificate advisor in the School's Student Services Office.
- Tuition for graduate certificates programs can be found at <https://registrar.osu.edu>.
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614-292-4623
Patterson.150@osu.edu

CONCURRENCE FORM

The Ohio State University
School of Health and Rehabilitation Sciences
College of Medicine Concurrence Form

The purpose of this form is to provide a simple system of obtaining departmental reactions to course requests. **An e-mail may be substituted for this form.**

An academic unit initiating a request should complete Section A of this form and send a copy of the form, course request, and syllabus to each of the academic units that might have related interests in the course. Units should be allowed two weeks to respond to requests for concurrence.

Academic units receiving this form should respond to Section B and return the form to the initiating unit. Overlap of course content and other problems should be resolved by the academic units before this form and all other accompanying documentation may be forwarded to the Office of Academic Affairs.

A. Proposal to review

Usability and User Experience Design Certificate

Initiating Academic Unit

School of Health and Rehabilitation Sciences

Type of Proposal (New, Change, Withdrawal, or other)
New

Date request sent
09/04/2019

Academic Unit Asked to Review
needed

Date response

Biomedical Informatics (BMI)

09/04/2019

B. Response from the Academic Unit reviewing

Response: include a reaction to the proposal, including a statement of support or non-support (continued on the back of this form or a separate sheet, if necessary).

BMI fully supports the proposal from the SHRS to offer a Usability and User Experience Design Certificate Program (post-bachelor degree stand-alone certificate (type 3a)).

Signatures

1. Name

Position

Unit

Date

LangLi Professor and Chair, Biomedical Informatics, 9/4/2019

C.

CONCURRENCE FORM

The Ohio State University School of Health and Rehabilitation Sciences College of Medicine Concurrence Form

The purpose of this form is to provide a simple system of obtaining departmental reactions to course requests. **An e-mail may be substituted for this form.**

An academic unit initiating a request should complete Section A of this form and send a copy of the form, course request, and syllabus to each of the academic units that might have related interests in the course. Units should be allowed two weeks to respond to requests for concurrence.

Academic units receiving this form should respond to Section B and return the form to the initiating unit. Overlap of course content and other problems should be resolved by the academic units before this form and all other accompanying documentation may be forwarded to the Office of Academic Affairs.

A. Proposal to review

Usability and User Experience Design Certificate

Initiating Academic Unit

School of Health and Rehabilitation Sciences

Type of Proposal (New, Change, Withdrawal, or other)

New

Date request sent

08/06/2019

Academic Unit Asked to Review

needed

Integrated Systems Engineering (ISE)

Date response

B. Response from the Academic Unit reviewing

Response: include a reaction to the proposal, including a statement of support or non-support (continued on the back of this form or a separate sheet, if necessary).

ISE supports the proposal from the SHRS to offer a Usability and User Experience Design Certificate Program (post-bachelor degree stand-alone certificate (type 3a)).

Signatures

1. Name

Position

Unit

Date

 Chair

Integrated Systems
Engineering

8/6/19

2. Name

Position

Unit

Date

3. Name

Position

Unit

Date

From: Tomasko, David <tomasko.1@osu.edu>
Sent: Friday, March 27, 2020 2:38 PM
To: Nahikian-Nelms, Marcia <Marcia.Nahikian-Nelms@osumc.edu>
Cc: Quinzon-Bonello, Rosario <quinzon-bonello.1@osu.edu>
Subject: RE: Certificate in Health and Rehabilitation Sciences

ECE concurs, and suggests (but does not require) adding the word “Healthcare” into the already-too-long title to define it a little better, such as “Healthcare Usability and User Experience Design Certificate” or similar.

We’ve talked this over in CSE. We all agree that the curricular content of the certificate looks fine. This should be an interesting and useful program!

However, the ***title*** is way too broad. UX Design is a cross-disciplinary field of study with application in lots of disciplines, including Electronic Medical Records no doubt. Also, there is a proposed course in the certificate called “Information Technology”, which has a similar disconnect between the breadth of the title and the focus of the curricular content.



David L Tomasko, PhD

Associate Dean for Undergraduate Education and Student Services
Professor

College of Engineering William G Lowrie Dept of Chemical and Biomolecular Engineering
121 Hitchcock Hall, 2070 Neil Ave, Columbus, OH 43210
tomasko.1@osu.edu



THE OHIO STATE UNIVERSITY

College of Medicine
School of Health & Rehabilitation Sciences

Graduate Studies Committee

228 Atwell Hall
453 W. 10th Avenue
Columbus, OH 43210-2205

614-292-5645 Phone
614-292-0210 Fax

August 26, 2019

Graduate Studies Committee
School of Health and Rehabilitation Sciences
The Ohio State University

Dear HRS Curriculum Committee:

The Graduate Studies Committee of the School of Health and Rehabilitation Sciences has reviewed and voted to approve both the course and certificate proposal by Dr. Jennifer Garvin, "HIMS 5700 - Project in Health Information Management and Systems."

The Committee considers the course and certificate to be of high-quality and valuable for our graduate students. The proposed certificate is intended for graduate students as a Post-Bachelor Degree Stand-Alone Certificate (Type 3a), which is the first step in a coherent strategy of proposing multiple graduate and undergraduate certificates in HIMS in order to grow in the School of Health and Rehabilitation Sciences and the healthcare and information management field. The proposed online course is intended to accompany the certificate and structured so that students complete an applied project as an independent study while mentored by a faculty member.

The goals and learning objectives of the course align with the School of Health and Rehabilitation Sciences' overall mission and will allow students to apply, critique, recommend, design and write integrated methods and solutions to health information and management issues and gain exposure to theoretical knowledge that would resemble what would be done in a realistic work environment. During the project, students have the opportunity to apply critical thinking skills to solve real-world problems, from assessing the problem itself to applying suitable and appropriate methods to generate one or more solutions.

Thank you for reviewing this request. Please let me know if you have any questions.

Best,

Amanda M. Agnew, PhD

Graduate Program Director and Associate Professor
Health and Rehabilitation Sciences

amanda.agnew@osumc.edu



206 Atwell Hall
453 W. 10th Ave.
Columbus, OH 43210

614-292-4758 Phone
614-292-0210 Fax

<https://hrs.osu.edu/>

October 9, 2019

Emily Patterson, PhD
Jennifer Garvin, PhD
Division of Health Information Management Systems
School of Health and Rehabilitation Sciences

Dear Drs. Patterson and Garvin:

On October 7, 2019, the HRS curriculum committee unanimously approved the newly proposed certificate – Usability and User Experience (UX) Design as both a Graduate Academic Certificate Program Type 3a Stand Alone and Undergraduate Academic Certificate Program Type 1a Stand Alone certificate.

Sincerely,

Marcia Nahikian-Nelms, PhD
Professor, Clinical
Director, Academic Affairs

MEMORANDUM OF UNDERSTANDING

College:	School of Health and Rehabilitation Sciences (in College of Medicine)
Department:	Division of Health Information Management and Systems
Faculty director:	Emily S. Patterson, PhD
Primary contact, if different from faculty director:	Emily S. Patterson, PhD
Fiscal officer:	Alice Shi
Marketing director:	Lynn Howell
Enrollment contact for state authorization compliance:	Marcia Nahikian-Nelms, PhD, RDN, LD, Director of Academic Affairs
Additional colleges/contacts:	Jennifer Garvin, PhD, MBA, RHIA, CTR, CHPQ, CCS, FAHIMA, Director of the Health Information Management and Systems Division



Name of program:	Usability and User Experience Design Certificate
Approval process (change in delivery or new program):	New program: Type 3a and Type 1a
Will this program have a different fee structure from what would normally be assessed similar students at the university? If so, then please explain:	No
Total credit hours:	12
# of courses to be created:	4
# of courses already in an online format that need ODEE review:	0
# of anticipated students:	20 per year



Marketing and Communications:	Having access to marketing resources will allow you to reach large audiences, compete with other online programs, and increase enrollments year-over-year. For this program, does your college plan to do any of the following? Yes/No	
	<i>Conduct advertising specific to this online program</i>	Yes
	<i>Utilize your college communications team for advertising support</i>	Yes
	<i>Designate marketing responsibilities for this program in an individual's job description (i.e. program director, program coordinator, college communications coordinator, etc.)</i>	Yes
	<i>Secure an annual marketing budget for online program advertising</i>	Yes
	<i>Host a webpage for your online program on the college's website</i>	Yes
	<i>Utilize your college's admissions/recruitment team to track and communicate with perspective distance students</i>	Yes



State authorization:	Does this program potentially lead to a professional license or certificate? Yes/No	No
	Is professional licensure a prerequisite for enrollment in the program? Yes/No	No
	For this program, does your college plan to do any of the following outside of Ohio? Yes/No	
	<i>Establish a physical location for students to receive synchronous or asynchronous instruction</i>	No
	<i>Establish an administrative office or provide office space for staff</i>	No
	<i>Conduct on-ground supervised field experiences such as clinicals, practicums, student teaching or internships</i>	No
	<i>Place more than 10 students simultaneously at a single placement site (such as a hospital)</i>	No
	<i>Require students to meet in person for instructional purposes more than twice per semester</i>	No
	<i>Carry out field study or research at a field station</i>	No



Use this table to detail all of the courses associated with the program and when you envision these courses will be developed, delivered, etc. For courses that are already developed and available in an online format, please include them and note development concluded in the Developed column.

<i>Course Name</i>	<i>Faculty Lead</i>	<i>OAA Approved for Online Delivery</i>	<i>Developed</i>	<i>Delivered</i>	<i>5 Hour Review (semester immediately following first delivery)</i>	<i>Reviewed (every 3 years)</i>
Example: Principles of Basic Science	J. Smith	AU16	AU16	SP17	SU17	SU19
HIMS 5900 (3) – Human Factors in Healthcare	E. Patterson	AU 19	AU20			
HIMS 5700 (3) – Project in Health Information Management and Systems	E. Patterson	AU 19	SU20			
HIMS 5650 (3) – Information Technology	E. Patterson	AU 19	SP21			
HIMS 5635 (3) – Quality Improvement and Patient Safety	E. Patterson	AU 19	SU21			



Colleges entering into this agreement will:
Secure approval from the following, where applicable: <ul style="list-style-type: none"> • Graduate School • Council on Academic Affairs (CAA) • University Senate • Board of Trustees • Department of Higher Education
Contact the university budget office regarding new program and to request a distance-education-specific fee table. Differential fees must be approved by the Board of Trustees, if applicable.
Meet the program standards set forth by your accrediting body (if applicable) for alternative delivery models
Submit courses for online delivery and any course revisions to curriculum.osu.edu (after CAA approval)
Label students in Student Information System with appropriate subplan. Distance students = subplan ONL
Provide budget forecasting/market analysis using ODEE funding model (attached) <ul style="list-style-type: none"> • Incur the costs for your program specific advertising • Incur additional costs associated with distance education programming (e.g. student advising, increased TA support)
Collaborate with ODEE on state authorizations and state licensure approvals, if applicable <ul style="list-style-type: none"> • Upon request, provide program and faculty information to the state authorization team • Provide required professional licensure board disclosures to potential and enrolled students in writing • Communicate to prospective students their ability to enroll and seek federal financial aid based on state authorizations • Notify ODEE of states/countries where they would like to enroll students • For licensure programs, post a link to the Ohio State Online disclosures page (online.osu.edu/state-authorization/disclosures) on the College program page • Encourage distance education faculty/instructors/students to participate in ODEE distance education training <ul style="list-style-type: none"> ◦ "State Authorization 101" BuckeyeLearn course
Collaborate with ODEE on the technical solutions for effective course delivery: <ul style="list-style-type: none"> • Online-specific syllabus requirements (e.g., ADA statement, Academic Integrity/Academic Misconduct statement) • Ohio State identity/branding guidelines • Carmen course template providing students with effective navigation and online course expectations, etc. • Provide course content materials for placement into mutually agreed upon formats and technologies for distance delivery • Utilize Quality Matters principles in course design • Focus on outcome-based learning and incorporate assessment into courses
Collaborate with ODEE Instructional Designers to infuse academic integrity best practices into program course development and delivery, including, but not limited to, authentic assessments and online proctoring of examinations.
Encourage distance education faculty/instructors to participate in professional development opportunities, including ODEE's Distance Education Learning and Teaching Academy
Collaborate with relevant student support services (Disability Services, Writing Center, Libraries, Veterans Affairs, etc.) <ul style="list-style-type: none"> • Incur costs to provide required accessibility accommodations for videos and activities not produced by ODEE
Collaborate with ODEE to review and update courses immediately following first delivery and every three years.
Provide at least one required student participation activity per week in each course



- Course designers will implement activities each week of a course to verify enrollment. This is beyond a simple login to a course space, but constitutes a discussion posting, quiz attempt, artifact submission, etc.

Identify student technology support for tools only used by your program.

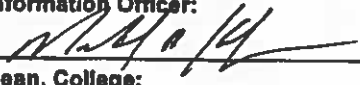
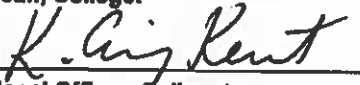

Provide replacement instructor(s) in a timely manner should an instructor separate from the university during the course development process or terminate and postpone course development until a replacement instructor can be identified.



ODEE entering into this agreement will:
<p>Administer state authorization program</p> <ul style="list-style-type: none"> Necessary to ensure program meets federal student financial aid guidelines Communicate with the colleges the status of approved state authorizations
<p>Collaborate with the college on the technical solutions for effective course delivery:</p> <ul style="list-style-type: none"> Online-specific syllabus requirements (e.g., ADA statement, Academic Integrity/Academic Misconduct statement) Ohio State identity guidelines Course templates providing students with effective navigation and online course expectations, etc. Placing course content materials into mutually agreed upon formats and technologies for distance delivery Utilize Quality Matters principles in course design Focus on outcome-based learning and incorporate assessment into courses
<p>Collaborate with program faculty and staff to infuse academic integrity best practices into program course development and delivery, including, but not limited to, authentic assessments and online proctoring of examinations.</p>
<p>Provide instructional designer production time during the course development cycle, including the 14-week development process, five-hour review and three-year revision.</p>
<p>Provide distance education professional development opportunities for faculty/instructors/students through ODEE's Distance Education Learning and Teaching Academy</p>
<p>Collaborate with the college to review and update courses immediately following first delivery and every three years</p>
<p>Collaborate with course instructors to provide at least one required student participation activity each week in a course</p> <ul style="list-style-type: none"> Course designers will implement activities each week of a course to verify enrollment. This is beyond a simple login to a course space, but constitutes a discussion posting, quiz attempt, artifact submission, etc.
<p>Provide distance education faculty and students access to:</p> <ul style="list-style-type: none"> An OCIO-managed, 24/7, Tier 1 help desk for ODEE/OCIO provided tools/services
<p>Provide Ohio State Online program advertising</p> <ul style="list-style-type: none"> Two-minute, program-specific introductory video Consult with college marketing on strategies for program-specific advertising Program included in general Ohio State Online marketing strategy Marketing will only be conducted in states/countries in which the program has been authorized
<p>Collaborate with program directors to revise the course development process should an instructor separate from the university during that time. Options include continue work on course through the end of the 14-week development process with a replacement instructor or terminate and postpone course development until a replacement instructor can be identified.</p>

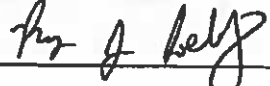
Please note: each service-level agreement will dictate the ODEE products and services utilized



MOU created by:	Marcia Nahikian-Nelms, PhD- Director Academic Affairs- School of Health and Rehabilitation Sciences	
MOU approved by:	Mike Hofherr, Vice President and Chief Information Officer: 	Date: 12.13.2019
	Dean, College: 	Date: 12/11/19
	Fiscal Officer, College: 	Date: 12/11/19

**Please review and attach program revenue projection worksheet.*

PROGRAM REVENUE PROJECTION

Approved by:	College Fiscal Officer: 	Date: 12/11/19
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