

Experiential Learning Course Proposal Cover Sheet

(Use this form if your program is seeking approval for a whole course to count as an ELR)

Program/Department/School Submitting Proposal Digital Sciences Date Submitted 10/2/13

Contact Person Robert A. Walker E-mail rawalke1@kent.edu Phone 2-9105

Course Number/Title DSCI 40910 Capstone in Digital Sciences Number of Credits 3

Check one:

New Proposal Resubmission with Revision; Date of Original Submission _____

Select Appropriate Experiential Learning Category/Categories: Drop-down menu of five categories [Civic Engagement, Creative/Artistic Activities, Practical Experiences, Research, Study Abroad/Away]

Chair/Director
Signature _____ Date _____

Date Approved by College Curriculum Committee _____

Dean Signature: _____ Date _____

For URCC use only

Date Received by URCC _____

Decision: Approved _____ (Date)
 Withdrawn by Submitter _____ (Date)
 Minor Revision – Resubmit _____ (Date)
 Major Revision – Resubmit _____ (Date)
 Denied _____ (Date)

Course-Based Experiential Learning Requirement Form
(Use this form if your program is seeking approval for a whole course as an ELR)

Please consult the Experiential Learning Guidelines as you respond to each item on this form.

Course Subject/Number/Title: DSCI 40910 Capstone in Digital Sciences

Credit Hours: 3 credit hours

Prerequisite(s): DSCI 41510 Global Project Management and Team Dynamics,
TECH 46311 Requirements Engineering and Analysis,
MIS 44043 Database Managements (new pre-req), and Senior Standing

Please attach a master syllabus for this course, and submit a course catalog update workflow.

The *course objectives* section of the syllabus must include the *goals of the experiential learning component*.

1. Describe how the course provides opportunities for students to:

- Connect ideas, concepts, and skills developed at the university with their applications to new and different contexts;
- Demonstrate how this experience has broadened their understanding of the discipline, the world, or themselves as learners; and
- Reflect on the meaning of the experience for their current and future learning.

2. Explain how the three learning outcomes will be assessed:

- Connect ideas, concepts, and skills developed at the university with their applications to new and different contexts;
- Demonstrate how this experience has broadened their understanding of the discipline, the world, or themselves as learners; and
- Reflect on the meaning of the experience for their current and future learning.

3. In what ways will your unit communicate expectations described in this proposal to faculty who will be teaching this course? In what ways will your unit maintain standards across multiple sections and over time as instructors change?

URCC Use Only

Date Received by URCC _____ *Date Approved by EPC* _____

Date Approved by URCC _____ *Date Removed as ELR* _____

ELR Course Application

DSCI 40910 Capstone in Digital Sciences

Submitted by DSCI Director Robert A. Walker
1 November 2013

Overview

Established in Fall 2011, the School of Digital Sciences began offering the Bachelor of Arts and Bachelor of Sciences degrees, both of which integrate technical skills, design thinking, and project management and culminate in a senior capstone project. Reflecting the interdisciplinary nature of the school, the senior capstone course was designed to be jointly offered with an upper-division project course in another unit, bringing both groups of students together to collaborate on a single project. The School of Digital Sciences is now seeking ELR status for this capstone course.

History

During its first two years of operation the School of Digital Sciences had very few students ready for graduation, so the capstone course was not offered. However, in anticipation of offering the course for the first time in Spring 2014, the concept of jointly offering the course with an upper-division project course in another unit was piloted. We did not seek ELR status for either course section at this time, but just piloted the concept of the joint offering.

In the Spring 2012 semester, the capstone was piloted under the name "*ST: Web Programming for Multimedia Journalism*" and was jointly offered as *JMC 40095/50095 Special Topics in Journalism and Mass Communication* and as *DSCI 49995/59995 Special Topics in Digital Sciences*. In this course, DSCI, JMC, and CS students collaborated as a group to develop a hyper-localized news feed for Kent State University that integrated material from social media and public data. The syllabus for this course is attached.

In the Spring 2013 semester, the capstone was piloted again with JMC, this time with the students working as a group to develop an interactive website on suicide by college students. The resulting web site, available at <http://www.campuslifeline.com>, won the Associated Press Media Editors' (APME) Innovator of the Year for College Students award. The syllabus for this course is attached.

Current Status

With 10-15 students nearing graduation, *DSCI 40910 Capstone in Digital Sciences* will be offered for the first time in the Spring 2014 semester. Two sections of the course will be offered.

Section 001 of *DSCI 40910 Capstone in Digital Sciences* will be jointly offered along with *JMC 40295/60195 ST: Web Programming for Multimedia Journalism*. This semester's group project will be go beyond the more traditional template-based web page to develop a scrolling, interactive web site akin to the Snow Fall website (<http://www.nytimes.com/projects/2012/snow-fall>) from the New York Times — in this case investigating the Cuyahoga River and people who care about it.

Section 004 of *DSCI 40910 Capstone in Digital Sciences* will be jointly offered along with *JMC 40295/60295 ST: Mobile Publishing*. This new, collaborative group project will develop a news magazine for the iPad that will present the scientists, naturalists and others from The Holden Arboretum.

Both sections of the course will have 20-30 DSCI and JMC students working together on a single project. However, each set of students will enroll in the course offered by their home unit, will bring different skills into the course, will contribute to the project in different ways, and will be evaluated separately. The JMC

students will be familiar with the news media, will do the investigative reporting, will record and edit their interviews, and will be evaluated in the JMC course on that basis.

The DSCI students will enter *DSCI 40910 Capstone in Digital Sciences* with three pre-requisites:

- *DSCI 41510 Global Project Management and Team Dynamics*
- *TECH 46411 Requirements Engineering and Analysis*
- *MIS 44043 Database Management Systems (added for Fall 2014)*

These courses, in turn, require other pre-requisites:

- *DSCI 15310 Computational Thinking and Programming*
- *MIS 24065 Web Programming*
- *MIS 24053 Introduction to Computer Applications*

As a result, the DSCI student will be familiar with programming, web development and database systems, and depending on their path through the DSCI BA/BS program, will have other skills as well. Their evaluation in *DSCI 40910 Capstone in Digital Sciences* will be based on their contribution to the group project in these areas.

Future Plans

Beginning in the 2014-2015 academic year, we expect over 50 students per year will need to enroll in *DSCI 40910 Capstone in Digital Sciences*. When offered along with courses such as the two JMC courses mentioned above, we will be placing at most 8-10 students in each DSCI capstone section since these courses are typically capped at 20-30 students. When offered along with large project courses we may be able to place 20+ students in our DSCI capstone section. We are currently in discussion with several units to plan capstone offerings during this academic year, in each case using the curricular model described above.

Meeting the Goals of an ELR Course

The first goal of an ELR course is to provide students with an opportunity to "connect ideas, concepts, and skills developed at the university with their applications to new and different contexts."

- *DSCI 40910 Capstone in Digital Sciences meets this goal by allowing DSCI students to integrate their disciplinary knowledge, to use their disciplinary knowledge in support of another discipline, and to work on a large multi-disciplinary project that meets the needs of an internal or external client as demonstrated in the course examples above.*
- *This goal will be assessed by grading students based on their application of disciplinary material from pre-requisite courses (DSCI 15310, DSCI 41510, MIS 24065, MIS 44043, and TECH 46411) or other Digital Sciences courses in support of the project.*

While each student's role on the group project will vary, each DSCI student will be required to take a **major** role in **one** of the following four areas (each of which represents content from the pre-requisite courses):

- Project management — analyzing project requirements, planning and organizing the project schedule, and developing contingency plans as the schedule slips
- Web programming — developing the project website, planning the website interaction, and programming the website's access to underlying data repositories
- Programming — writing the code for any non-web-oriented programming, including any scientific or engineering programming, database manipulation, human-computer interaction, or smartphone / tablet programming
- Database management — designing and organizing the project database, including the necessary records and access mechanisms

Each DSCI student will also be required to take a **supporting** role in at least **two** additional areas, from either the four areas listed above or from the following five areas (each of which represents content from other Digital Sciences courses):

- Interface design — analyzing user interaction needs, doing the interaction design for the project's website or smartphone / tablet app, and prototyping and testing the user interface.

- Security — developing techniques, processes and strategies to protect the project's computer assets from malware and attack / thread vectors.
- Document / information management — design and organize the project's document and records management, plan the project's information architecture, and develop strategies to migrate data between platforms as necessary.
- Design — plan the design of the project artifacts to conform to delivery mechanism (e.g., web site, tablet app, smartphone app), considering design aspects including layout, color, and composition.
- Storyboarding — plan the organization of material to deliver a desired message, including the appropriate use of text, graphics, photos, or videos.

The second goal of an ELR course is to provide students with an opportunity to "demonstrate how this experience has broadened their understanding of the discipline, the world, or themselves as learners."

- *DSCI 40910 Capstone in Digital Sciences meets this goal by allowing DSCI students use their disciplinary knowledge in collaboration with students from other majors, gaining a broader understanding of that other discipline and how the two disciplines interact. Moreover, they will both gain an understanding of the project client's work environment and needs. They will also gain a better understanding of how to work with a team of diverse individuals in support of a common goal, much as they will have to do when they graduate and enter the workforce.*
- *This goal will be assessed by asking the students to specifically explain how their project has broadened their understanding of Digital Sciences, the world, or themselves as learners in their final project report or presentation.*

Finally, the last goal of an ELR course is to provide students with an opportunity to "reflect on the meaning of the experience for their current and future learning." *DSCI 40910 Capstone in Digital Sciences* will require this reflection as part of the final project report or presentation.

Web Programming for Multimedia Journalism

Spring 2012

JMC course number: JMC 40095/50095

Digital Sciences course number: DSCI 49995/59995 Special Topics in Digital Sciences

Room: 415 Franklin Hall

Time: Tuesday, Thursday 2:15 to 3:30 p.m.

Instructors: Jacqueline Marino, JMC

Liz Yokum, Digital Sciences

Sue Zake, JMC multimedia coach and student media liaison

Student assistant: Adam Davis

Required Readings for All Students:

Getting Real, 37signals. [Free electronic version: http://gettingreal.37signals.com/](http://gettingreal.37signals.com/)

Journalism Next, Mark Briggs

Get familiar with EveryBlock <http://www.everyblock.com/> and OpenBlock <http://www.openblockproject.org>

Required Readings for Programmers and Developers:

Django resources at <https://www.djangoproject.com/>

OpenBlock documentation at <http://openblockproject.org/docs/>

Links to other readings will be provided.

Course Description:

Students of technology and journalism will adapt OpenBlock, a Knight News Challenge-funded, open-source application to the Kent State campus. Students will learn how to create Web news feeds for the places on campus where they live, study and play. Students will also decide how to customize the resource using social media, public data and other information. The course is partially funded by a grant from Association for Education in Journalism and Mass Communication. Special note: This is a project class, and your professors will act as project managers. *That means we have not done what we are asking you to do.* We don't know all the answers, just how to help you get them. We hope you enjoy being on the creative edge.

Course Objectives:

- Journalism students will develop a basic knowledge of web programming, including web page coding (HTML), styling (CSS), user interaction (Javascript) and images, audio and video. The emphasis will be on helping them learn to modify open-source applications.
- Programmers, developers and designers learn journalism basics (news values, ethics, some reporting and writing)
- Development of OpenCampus, a collaborative, multidisciplinary team project

- Completion of guidelines to help others bring OpenBlock to their campuses.

Requirements:

- Quizzes on lecture and reading material
- Individual assignments
- Group milestone reports
- Individual biweekly progress reports

All students will

- evaluate certain news or storytelling-oriented websites for journalism, information architecture, programming and design.
- become familiar with the challenges and potential of the software and its application to a journalism website
- work to solve problems as members of teams
- read required works and contribute to discussions

Journalism students will

- find out what public data is stored digitally in the Kent State and Kent, Ohio, area
- work to obtain that data in usable form for OpenCampus
- learn the basics of HTML, tags, properties, CSS and other applicable aspects of website development
- write the how-to guide for other campuses

Programming and web development students will

- do the programming, design and development for OpenCampus
- learn the basics of journalism practices and ethics
- work with the journalism students collaboratively, explaining their progress as needed

- Group work

All students will contribute to OpenCampus according to their areas of interest and specialization. Programmers will program, developers will develop and journalists will report, write and promote the site. Each student will be evaluated on both the amount of work contributed and the quality of that work at each milestone. Factored into this grade will be each student's class attendance, contribution to discussions and group problem-solving.

- Contributions to final project

Each student will write a final report explaining their contributions according to guidelines the instructors will give in class. Each individual contributes biweekly reports.

Grading:

Quizzes, 10 percent

Individual Assignments, 30 percent
Group work milestones, 20 percent
Contributions to final project as described in individual and group reports, 40 percent

Attendance and Decorum:

We will excuse absences for illness, emergency or religious holidays. If you have more than two unexcused absences, you will have to meet with an instructor. More than three unexcused absences will be reflected in a 5-point reduction in your final grade. Four unexcused absences equal a 10-point reduction and so on. An absence not supported by documentation, such as a doctor's note, will be considered an unexcused absence.

Please be on time for class. If the door is closed when you get to class, you are officially late. Three late arrivals equal an unexcused absence.

Deadlines

All outside assignments and rewrites are due at the beginning of class.

Computer Lab Policies

Please bring a jump drive to class to save your work. Nothing may be saved on the lab computers.

No food or drink is allowed in the computer lab.

Contacting Us:

JMC instructor: Jacqueline Marino, jmarino7@kent.edu

Multimedia Coach: Sue Zake, szake@kent.edu

DS instructor: Elizabeth Yokum, ewyglend@kent.edu

Student assistant Adam Davis, adavis71@kent.edu

Statement on Cheating and Plagiarism:

The School of Journalism and Mass Communication deals in publishable works and educates its students for various aspects of publishing and other communications professions. Within this framework, every student must be aware of the following rules and definitions while in school or on the job:

- Fabrication is, in phrasing first used by the Columbia University Graduate School of Journalism, the cardinal sin. Faking quotations, faking "facts," reporting things that did not happen are not only reprehensible; they could be actionable in court.
- Plagiarizing, as defined by Webster, is "to steal and pass off as one's own the ideas or words of another." It is unethical and, in cases involving creative work, usually illegal. One of the worst sins a communications practitioner may commit is to plagiarize the work of another — to steal his/her words, thought, or outline and pass them off as his/her own.
- Duplicating work is defined as submitting the same work to more than one instructor (or publication) without the prior knowledge and agreement of both.
- Commission of any of these offenses while in school is grounds for disciplinary action. If the complaint is upheld, a variety of punishments may be imposed, from a reprimand to a lowered or failing grade in the course to dismissal from the university.

JMC Statement on Copyright

Ownership of the copyright for work submitted for this course is shared jointly by the student author(s) and the School of Journalism and Mass Communication of Kent State University. Often the professor will keep a copy of your work to show future students as an example or to publish or display as an example of student work.

When you turn in work in this class, you are agreeing to allow the use of the work as stated above and agreeing to the work being used without any compensation to you. However, if you sell your work, you get the money.

Read the University [Cheating and Plagiarism Policy](#) and [Help for students with disabilities](#).

Student Accessibility Services

University policy 3342-3-01.3 requires that students with disabilities be provided reasonable accommodations to ensure their equal access to course content. If you have a documented disability and require accommodations, please contact the instructor at the beginning of the semester to make arrangements for necessary classroom adjustments. Please note, you must first verify your eligibility for these through Student Accessibility Services. Contact 330-672-3391 or visit www.kent.edu/sas for more.

Statement on Late Course Registration

Students who are not officially registered may not attend classes. If you do not officially register by the deadline for course registration, you will not receive credit for this course.

Schedule (subject to change)

Week 1: Overview of OpenBlock and journalism via computer science explained and discussed. Also, the limitations of the linear narrative and the emerging importance of structured data. Multidisciplinary teams are formed. Scope of the project is determined.

Weeks 2 through 4: The problems and issues with developing scrapers for the Kent State campus. Jobs are assigned to team members according to skill level. Each student could explore a different aspect of the software's capability and make proposals for what should be included in the aggregation. Journalists get an overview of websites and browsers, as well as syntax, property attributes and themes. Programmers get overview of news values, data storytelling and ethics.

MILESTONE ONE DUE (WEEK 5)

Weeks 5 through 7: Visit from Prof. Jeremy Gilbert, Northwestern University (Feb. 7). Journalists work to collect information from public sources and meet with student groups, campus bloggers and leaders, enlisting their participation. Programmers continue to work on adapting the software. Design begins.

Weeks 8 and 9: First round of usability testing on unfinished site. Journalism students continue to collect data, speak to groups and look for stories they could produce from the data gathered.

Weeks 10 and 11: Site revised. Journalism students produce original content for the site. These could include data visualizations, word stories, timelines and video or photo stories.

MILESTONE TWO DUE (WEEK12)

Week 12: Second round of usability testing. Promotional materials developed. Students reconnect with student leaders and groups.

Week 13: Site launches. Promotion continues. More content developed.

Week 14: Continued tweaking and content development. Training of new student media leaders who will take on the project when the course ends.

Week 15: Students produce a final report assessing the project and craft instructions for how to adapt OpenBlock to other college campuses.

Web Programming for Multimedia Journalism

Spring 2013

JMC course number: JMC 40295/60195

Digital Sciences course number: DSCI 49995/59995 Special Topics in Digital Sciences

Room: 313 Franklin Hall

Time: Tuesday, Thursday 9:15-10:30 a.m.

Instructors: Jacqueline Marino, JMC, jmarino7@kent.edu

Josh Talbott, Digital Sciences, jtalbott@kent.edu

Required Readings for All Students:

Data Journalism Handbook. Download free:

http://www.computerworld.com/s/article/9215504/22_free_tools_for_data_visualization_and_analysis

A number of free tutorials from the Knight Digital Media Center at Berkeley will also be assigned. <http://multimedia.journalism.berkeley.edu/>

A starting point for information on suicide among college students can be found at <https://www.jedfoundation.org/>

A website devoted to mental-health issues is www.halfofus.com.

We will be developing the final project in github. Review the tutorial at learn.github.com.

Links to other readings will be provided on Blackboard Learn.

Required Readings for Programmers and Developers:

Links and handouts on journalism basics will be provided.

Required Readings for Journalists:

HTML Lessons:

<http://www.lynda.com/HTML-tutorials/HTML-Essential-Training-2012/99326-2.html>

CSS Lessons:

<http://www.lynda.com/Web-Interactive-CSS-training/CSS-Page-Layouts/86003-2.html>

Javascript Lessons:

<http://www.lynda.com/JavaScript-tutorials/Essential-Training-2011/81266-2.html?srchtrk=index%3A2%0Alinktypeid%3A2%0Aq%3Ajavascript%0Apage%3A1%0As%3Arelevance%0Asa%3Atrue%0Aproducttypeid%3A2>

Course Description:

Journalists and programmers will work together to investigate an important public health issue: suicide among college students. Using research datasets and in-depth storytelling, students will create an engaging, interactive website that will illuminate, explain and offer solutions on this issue. Although reporters will learn programming basics and programmers will learn journalism ethics and practices, students will primarily contribute to the final project in their areas of specialty. The final website will include data stories using open-source data-visualization software. The course is open to juniors and seniors and graduate students in JMC, DSCI, CS, VCD, MIS and IAKM.

Course Objectives:

- Journalism students will develop a basic knowledge of web programming, including web page coding (HTML), styling (CSS), user interaction (Javascript) and images, audio and video. The emphasis will be on helping them learn to modify open-source applications.
- Programmers, developers and designers learn journalism basics (news values, ethics, some reporting and writing)
- Development of a collaborative, multidisciplinary team project focused on interactive journalism.
- Promotion of the project to its target audience.

Requirements:

- Quizzes on lecture and reading material
- Individual assignments
- Group milestone reports

All students will

- evaluate certain news or storytelling-oriented websites for journalism, information architecture, programming and design.
- become familiar with the challenges and potential of adapting third-party applications to a journalism website.
- work to solve problems as members of teams.
- read required works and contribute to discussions.
- complete a significant part of the content or design of the website.

Journalism students will

- find out what public data is stored digitally on the issue of campus suicide and related mental-health issues.
- work to obtain that data in usable form for the website.

- create original content for the site, including photo, video and word stories.
- learn the basics of HTML, tags, properties, CSS and website development aspects.
- write material promoting the website.

Programming and web development students will

- do the majority of the programming, design and development for the site.
- learn the basics of journalism practices and ethics.
- explain their process to the journalists.

- **Group work**

All students will contribute to the project according to their areas of interest and specialization. Programmers will program, developers will develop and journalists will report, write and promote the site. Each student will be evaluated on both the amount of work contributed and the quality of that work at each milestone. Factored into this grade will be each student's class attendance, contribution to discussions and group problem solving.

- **Contributions to final project**

Each student will write a final report explaining their contributions according to guidelines the instructors will give in class.

Grading:

Quizzes, 10 percent

Individual Assignments, 40 percent

Group work milestones, 20 percent

In-class participation, 10 percent

Evaluation of individual work as displayed on final website, 20 percent

Attendance and Decorum:

We will excuse absences for illness, emergency or religious holidays. If you have more than two unexcused absences, you will have to meet with an instructor. More than three unexcused absences will be reflected in a 5-point reduction in your final grade. Four unexcused absences equal a 10-point reduction and so on. An absence not supported by documentation, such as a doctor's note, will be considered an unexcused absence.

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When you turn in work in this class, you are agreeing to allow the use of the work as stated above and agreeing to the work being used without any compensation to you. However, if you sell your work, you get the money.

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Schedule (subject to change)

Important note: On Thursdays from Week 2 through Week 7, the journalists and programmers will meet separately. Your instructors will tell you where you will meet.

Week 1: Overview of journalism via computer science explained. Also, the issue of suicide among college students discussed. How can interactive journalism add to our understanding of this problem?

Weeks 2 through 5: Suicide among college students: What we know and what we want to find out. Scope of the project is defined. Jobs are assigned to team members according to interest and skill level. Each student explores a different aspect of the problem and makes proposals for what content should be included. Journalists learn basics of HTML. Programmers learn news values and ethics. Journalists get an overview of websites and browsers, as well as syntax, property attributes and themes. Programmers get overview of storytelling with data and learn to edit news video.

GROUP MILESTONE ONE REPORT DUE FEB 12 (Tuesday of Week 5)

Weeks 6 and 7: Journalists work to collect information from public sources and meet with sources. Programmers work on adapting open-source software. Design begins.

Weeks 8 and 9: Journalists and programmers meet together every day. Journalism students continue to collect data and produce story drafts. Programmers work to improve the site.

Weeks 10 and 11: Final stories and visualizations are posted to the site. Usability testing begins.

GROUP MILESTONE TWO REPORT DUE APRIL 9 (Tuesday of Week 12)

Week 12: Changes are made to improve the site. Promotional materials developed. Students develop a social-media plan.

Week 13: Site launches. Promotion continues. More content developed.

Week 14: Continued tweaking and content development.

Week 15: Peer-assessment of site.