

Tuesday, Thursday 4:30 - 6:30PM | NANCY NICHOLAS HALL 3245

Instructors:

Kevin Ponto kbponto@wisc.edu

Office Hours:

By appointment

Course Objectives:

This class is meant to give students hands-on experience in building wearable computing platforms. Students will learn fundamentals of both AC and DC circuitry, weaving, basic microcontroller programming, techniques of sensor integration and interfacing for external machines. Students will produce a final project that will be showcased to the public.

The class is designed for students who:

- Have a background in textile and apparel design and are looking to take their work in new directions
- Have a background in computer science or engineering and are looking to explore new interface technologies.
- Have a background in media arts or robotics and have experience interfacing with microcontrollers and sensors

By the completion of the completion of the course students will:

- Have fundamental knowledge of electronic circuitry, programming, and “maker skills” such as sewing, soldering, couching, and spinning.
- Be able to successfully plan out, develop, document and create a project that utilizes technology and wearable components.
- Be able to showcase work through poster and verbal communication in an event for the public.

TextBook: This class will not have a textbook. All course readings will be posted online

PreReqs: This course has no official pre-requirements. Students will be learning new skill sets and will be expected to be strongly motivated.

Course Fee: There is no course fee. Students will be expected to provide their own materials. Students should plan to spend \$100-\$200 dollars over the course of the semester.

Anticipated Audience: Students may have backgrounds in Design Studies, Computer Science, Art, Electrical / Computer Engineering, Mechanical Engineering, Industrial Engineering, and Theater.

Course Format: The course will blend the lecture/discussion and studios styles. Most classes will consist of a vast amount of time dedicated to hands-on learning. Students will build skills over the first half of the class with the second half of the course being dedicated to final project. These final projects will be presented in a public forum in which the students will be expected to showcase their work.

POLICIES:

More than three absences (during the entire semester) *WILL LOWER* your earned final grade by one letter grade (i.e. an A will become an AB). Three late arrivals equal one absence. Absences will only be excused given a letter describing the reason for the absence from an authoritative figure.

All projects are to be finished by critique date and must be present at the *start* of the class. *Late work will NOT be accepted. (Grade will be 0)*

Please notify your instructor via email in case of extended illness or any other problem that may interfere with class attendance. Send your work with another student if you are ill on the day of the critique.

Accommodation of any special needs (recognized disabilities, absences for athletic meets, etc.) must requested of each instructor by the end of the second week of each module. Students must also inform the instructor in advance of days they will be absent for religious holidays. Instructors will try to make reasonable accommodations in accordance with university policies.

If problems come up during the course of the semester, be sure to let your instructor know. This might relate to matters of health, approaches to your work, etc. We will try to help you find solutions, but will be more helpful and much more flexible if you talk to us before issues become crises. We will maintain the confidentiality of any information you share with us.

GRADES: Your final grade in this class will be calculated on the following formula:

20% Prework
10% Assignments
10% Midterm
05% Cleanup
15% Project Posts
10% Project Poster
25% Project Showcase
05% Project and Course Reflection

The percentage breakdown for final grade calculation:

93-100 = A
90-92 = AB
83-89 = B
80-82 = BC
70-79 = C
60-69 = D

Information on UW-Madison's grade calculation can be found at this website:
http://registrar.em.wisc.edu/students/acadrecords/grades_and_policy/grades_and_gpa.php

Details on the method used to grade each of these objectives are as follows:

Prework: The prework component is used to get all students prepared for their final project. Detailed objective will be posted on the course website. Students will be expected to post the results of their prework on the course website.

Assignments: Assignments will be posted on the course website. This will generally be directed towards discovering more information about the field of interest.

Midterm: The midterm will be used as a checkpoint to ensure all students are ready to undertake their final project.

Cleanup: The cleanup grade is used to ensure that the spaces used for the class are not left in an untidy fashion. Each time a space is left in an unsatisfactory fashion, the parties responsible will lose 1 point from their final grade. If the parties cannot be identified, all parties will lose this point. There is no cap on these reduced points (i.e. deductions can be greater than 5%)

Project Post: Students will be required to do weekly postings in for the progress of their final project. Posts that are submitted late will receive an automatic 50% reduction. Posts that are incomplete will also receive reduced credit.

Project Poster: For the final showcase, students will be expected to make a poster. Details for the items to be included in the poster will be posted on the course website.

Project Showcase: This part of the grade is intended to assess the final result of the project. The project will be judged for functionality as well as aesthetic quality. The projects should be able to be considered proof of concepts for their intended purpose.

Project and Course Reflection: After the showcase, students will be asked to send an email reflecting on the course and project. Details will be posted on the course website.

STUDENT ASSISTANCE AND SERVICES:

There are many services on campus that can help students who are having difficulties. Here are a few helpful links to useful resources:

Master list of student services (including counseling, learning support, McBurney Center, safety department and SAFE nighttime services, LGBT campus center, Dean of Students office, financial aid, etc.) <http://www.wisc.edu/studentLife/studentServices.php>

University Health Service: http://www.uhs.wisc.edu/home.jsp?cat_id=36

GUTS (Greater University Tutoring Service) <http://guts.studentorg.wisc.edu/index.asp>

Tutoring help and other assistance for SoHE classes through Sohe Student Academic Affairs Office, 262-2608 acadaffairs@mail.sohe.wisc.edu

Important deadlines set by the registrar:
<http://registrar.wisc.edu/deadlines.php?term=1082>

Please contact your instructors via email if you should become sick. If possible, send your work with another student in the class or a friend if you have a project due.

Support your own good health with frequent hand-washing and by trying to avoid touching your eyes, nose and mouth. Influenza virus spreads through close contact with respiratory droplets, which generally means touching a contaminated surface with your hands and then touching your hands to your face. These hygiene measures are among the most powerful precautions you can take for yourself, as it will be impossible for every surface to be disinfected every time anyone touches it.