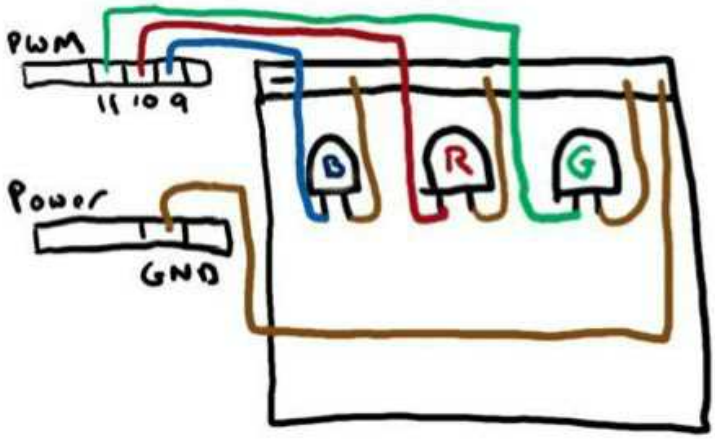
Maymester 2015, 11 May – 29 May



Introduction to Humanities Physical Computing (with Arduino and Processing)
IPGE 295.002/HUM 295.001 (3 credits of IP or HUMA GEP)

Instructor: Professor David M Rieder (English)

MoTuWeThFr 10.20a – 1.15p, Tompkins Hall 125 (PC Lab)

COURSE DESCRIPTION

> *Building is, for us, a new kind of hermeneutic — one that is quite a bit more radical than taking the traditional methods of humanistic inquiry and applying them to digital objects. Media studies, game studies, critical code studies, and various other disciplines have brought wonderful new things to humanistic study, but I will say (at my peril) that none of these represent as radical a shift as the move from reading to making.*
>
> *— Stephen Ramsay, "On Building"*

> *It's time to bridge the gap between the physical and the virtual—time to use more than just your fingers to interact with your computer. Step outside of the confines of the basic computer and into the broader world of computing.*
>
> — Tom Igoe, *Physical Computing*

This course will introduce you to humanities physical computing, which is a growing sub-field of humanities computing (also known as digital humanities). With the introduction of inexpensive electronics equipment, such as the Arduino prototyping platform, a growing number of digital humanists are taking a turn toward the physical. The reason is that physical computing offers digital humanists opportunities to move beyond the usual forms of I/O (i.e., keyboard, mouse, and screen) as well as the opportunity to expand their creative thoughts beyond desktop computing. In this course, **creativity and invention** will be emphasized. Readings throughout the semester will teach you about a century of humanities-oriented, avant-garde approaches to creativity and invention, which will help you think "outside the box." And learning how to think and work creatively in computational new media will lead to deeper engagements with language, writing, and textuality. **The majority of our class periods will be devoted to hands-on tutorials, experimentation, and both collaborative and individual prototyping**. As Stephen Ramsay argues in the first epigraph, building things is a new kind of hermeneutic, i.e., a new way in which to pursue new forms of knowledge ,in the humanities, The rest of the class periods will be our opportunity to discuss

the readings related to humanities-inspired approaches to creativity and invention, so that we have a critical context in which to understand what we are building.

The **Arduino UNO** electronics protoyping platform and the **Processing** programming language will be the basis for the 5 projects developed in this course. Both of these technologies were explicitly designed to introduce non-programmers and -engineers to the possibilities of computational media production. Moreover, they are open-source and inexpensive.

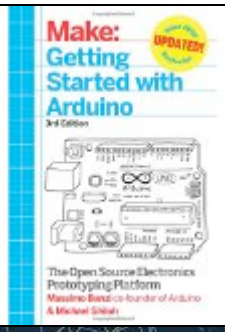
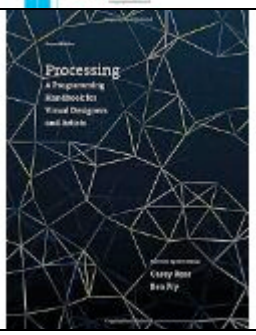
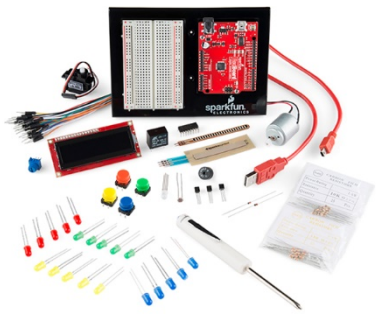
NO PRIOR EXPERIENCE with software programming or prototyping is necessary. You will be taught everything from the basics as you create 5 different computing projects.

GEP CREDIT

This course will count **3 credits** of Interdisciplinary Perspectives (**IP**) *or* Humanities (**HUMA**) course work.

- **English majors in the LWR concentration**: this course will fulfill your "digital technologies" requirement.

REQUIRED BOOKS/MATERIALS (Will be available through NC State's Bookstore)

	**Getting Started with Arduino,** 3rd Edition Massimo Banzi and Michael Shiloh
	**Processing: A Programming Handbook for Visual Designers and Artists** Casey Reas and Ben Fry
	**SparkFun's Inventor's Kit** (and some additional microcomponents)

COURSE CALENDAR

Check the following URL for updates soon:
http://www4.ncsu.edu/~dmrieder/maymester2015