

CS 330/ISAT 440—Social Impacts of Computing

Spring 2018

Course Overview

Welcome to CS 330/ISAT 440, Social Impacts of Computing! This course is designed to cover topics related to Social Issues and Professional Practice as described in [Appendix A of the ACM/IEEE 2013 Curriculum Guidelines for Undergraduate Degree Programs in Computer Science](#). That document says (p192):

Undergraduates need to understand the basic cultural, social, legal, and ethical issues inherent in the discipline of computing. They should understand where the discipline has been, where it is, and where it is heading. They should also understand their individual roles in this process, as well as appreciate the philosophical questions, technical problems, and aesthetic values that play an important part in the development of the discipline.

Students also need to develop the ability to ask serious questions about the social impact of computing and to evaluate proposed answers to those questions. Future practitioners must be able to anticipate the impact of introducing a given product into a given environment. Will that product enhance or degrade the quality of life? What will the impact be upon individuals, groups, and institutions?

Finally, students need to be aware of the basic legal rights of software and hardware vendors and users, and they also need to appreciate the ethical values that are the basis for those rights. Future practitioners must understand the responsibility that they will bear, and the possible consequences of failure. They must understand their own limitations as well as the limitations of their tools. All practitioners must make a long-term commitment to remaining current in their chosen specialties and in the discipline of computing as a whole.

Grades

Your grade this semester will be based upon a point system. You earn points by earning [badges](#). Each badge has a certain number of points associated with it. The point cutoffs for various grades are in the table below. I will not round or curve. You are responsible for keeping yourself on track. To get an “A”, you need to be earning 8-10 points a week, on average. There

should be plenty of opportunities to earn points. If for some reason, you find yourself without anything to do, please take your prof out for coffee ([you can earn a point that way](#)), and we can come up with a plan for you. ***Please see the important caveat to this grading system in the attendance policy below.***

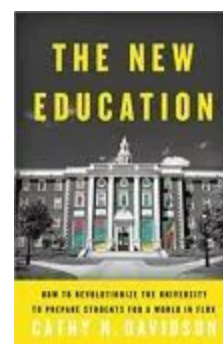
Grade	Points
A	129-150
A-	120-128
B+	111-119
B	99-110
B-	90-98
C+	81-89
C	69-80
C-	60-68
D+	51-59
D	39-50
D-	30-38
F	0-29

Attendance Policy

Attendance is mandatory. I will take attendance at the beginning of every class period. If you are not there when your name is called, you will not get credit for being there. If you are marked absent more than five (5) times during the course of the semester for any reason, your semester grade will drop by one letter. Woody Allen said, “80% of success is just showing up.” I care if you’re here. **Please note, even an “excused” absence counts toward one of your five absences!!!**

Textbook

This semester we will be reading a book by Dr. Cathy N. Davidson called [The New Education: How to Revolutionize the University to Prepare Students for a World in Flux](#). We will read the entire book, and will do so at a pretty fast pace, so everyone should order a copy ASAP so that they can have it by the end of the first week of the course.



Schedule

The schedule for this class is somewhat flexible and constantly evolving. The first few weeks, however, have been mapped out pretty tightly.

Wk#	Day	Topic	Homework
1	1/8	Course Intro	Buy text , Socialize , Syllabize
	1/10	Nosedive	Reading TNE Intro+Ch1 (by 1/17)
	1/12	Goal+Intention Setting	Reading, Journalist
2	1/15	MLK Holiday	Reading
	1/17	TNE Discussion	Reading TNE Ch2 (by 1/22)
	1/19	Journal Sharing	Reading
3	1/22	TNE Discussion	Brainstorm
	1/25	Choose Paper Topics	Read TNE Ch3 (by 1/29), Begin Bibliography
	1/26	Work on Bibliography	Reading, Research
4	1/29	TNE Discussion	Research
	1/31	Bibliography Presentation	Read TNE Ch4 (by 2/5), Outliner
	2/2	Work on Outlines	Reading, Outlines
5	2/5	TNE Discussion	Outlines
	2/7	Outline Presentations	Read TNE Ch5 (by 2/12), Drafty

	2/9	Work on Drafts	Reading, Writing
6	2/12	TNE Discussion	Writing
	2/14	Draft Presentations	Read TNE Ch6 (by 2/19), Polisher
	2/16	Draft Polishing	Reading, Polishing
7	2/19	TNE Discussion	Polishing
	2/21	2nd Draft Presentations	Read TNE Ch7 (by 2/26), Writing
	2/23	Final Drafting	Reading, Writing
8	2/26	TNE Discussion	Final Writing
	2/28	Final Draft Presentation	Finish TNE (by 3/12), Reviewer
	3/2	Reviewing Workshop	Reading, Writing Review
SPRING BREAK!!!			
9	3/12	TNE Discussion	Reviewing
	3/14	Review Competition	Journaling
	3/16	Competition Results	Brainstorming
10	3/19	TBD	
	3/21	TBD	
	3/23	TBD	
11	3/26	TBD	
	3/28	TBD	
	3/30	TBD	
12	4/2	TBD	
	4/4	TBD	
	4/6	TBD	
13	4/9	TBD	

	4/11	TBD	
	4/13	TBD	
14	4/16	TBD	
	4/18	TBD	
	4/20	ISAT Senior Symposium	
15	4/23	TBD	
	4/25	TBD	
	4/27	First Day of Finals	
End of Semester Exit Interviews			

Important Dates and Deadlines

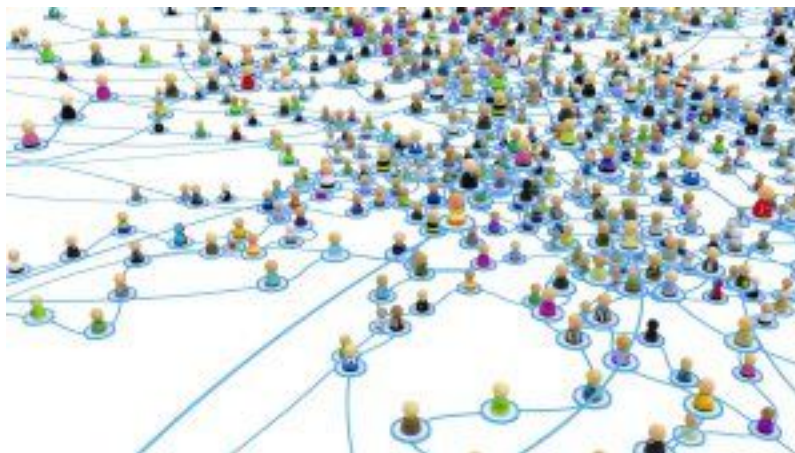
At the behest of the registrar, a list of dates you may wish to take note of:

- Tuesday, January 16th: Last day of add/drop
- Thursday, January 25th: Last day to add a class with Department Head signature
- Friday, January 26th: Last day to withdraw from JMU with charges canceled

So if I scare you off, get out early. Or conversely, if I turn you on, join us soon!

[My academic integrity policy](#) is different from JMU's standard policy, but I will adhere to JMU's standard policies listed on the [JMU Syllabus Information for Students page](#) with respect to add/drop, disability accommodations, inclement weather and religious accommodations.

What is "Learning"?



Learning is Essentially Relational

The dominant definition of learning in our society is based on psychometrics, or the measurement of psychological properties. Because the amount someone has learned can't be

directly observed, we infer learning using tests or other student-generated artifacts. Although we can never know exactly what a person knows or can do, we believe we can make a pretty good guess by giving them tests and scoring the results. In abstract terms, learning equals the difference in performance of a person over time, or:

$$t_1 - t_0 = \text{learning}$$

More concretely, if you give someone a test at the beginning of the course and they get a 62%, then give them a test at the end of the course and they get 92%, then we define learning as:

$$92 - 62 = 30$$

Unfortunately, there are no standardized units of learning, as we have with say money, or weight, or temperature. Therefore we really have no way to interpret such scores in a reliably meaningful way. Fortunately, though, there are other ways to define learning that don't have the same kinds of problems.

A better definition of learning, in the sense that it takes into account the contextualized and systemic aspects of learning, comes from [Moss \(2003\)](#) who said:

From a sociocultural perspective, learning is perceived through changing relationships among the learner, the other human participants, and the tools (material and symbolic) available in a given context. Thus learning involves not only acquiring new knowledge and skill, but taking on a new identity and social position within a particular discourse or community of practice. As Wenger puts it, learning "changes who we are by changing our ability to participate, to belong, and to experience our life and the world as meaningful." (p14)

Learning is, at its core, an artifact of relationship. It's fundamentally a social process because we need the mirror provided by others to help us recognize and apply our gifts and talents. In more concrete terms, as a result of learning, I go from being "that guy who works down the hall" to being "that guy who works down the hall and is a great web developer." As a result of learning, people come to see us differently, and they begin to approach us and rely on us to contribute our gifts and talents back to them.

Personal Integrity Policy

First:

If I catch you cheating, or doing anything else dishonest, you will fail the course. Period.

Second, that being said, I strongly encourage sharing and collaboration in most every aspect of the course. That means that I think it's a smart idea for you to:

- Download code you find on the web (include the URL of where you found it and some notes about how you got there)
- Download your classmates' code and use it, even before an assignment is due
- Pay someone to help you write code
- Get code from upperclassmen or people in previous semesters
- Ask your neighbor to give you a hint on a question on a test that you're stumped on
- Use whatever notes, websites, books, or other materials you need to complete most any assignment or test

You'll note that many of the above behaviors would be considered "cheating" in many or most other courses. Here are some guidelines I'd like you to follow:

- Never EVER copy without attribution
- Even on tests, if someone or something helped you out, acknowledge it. Make notes in your code if you got it from someone or somewhere else. Copying without attribution is stealing and is a breach of integrity. If you got the code off of the web, there should be a URL and some notes about how you found it. If you paid someone to help you write it, say so.
- Never copy without understanding
- The point of the class is to learn and understand stuff. Since you don't get any grades on individual tests or assignments, it's pretty stupid to copy something that you don't understand. Think about it. What point could it possibly serve?
- Be very hesitant to copy an ENTIRE project
- While there's a lot to be gained by incorporating parts of your classmates' code in your own project, copying someone else's entire project doesn't really provide you much of a learning experience and wastes people's time.
- Try to figure it out yourself first
- 90% of writing programs is learning how to write them, and this will stay the same throughout your entire programming career. Being a self-sufficient learner is one of the primary goals of the course.

Code re-use is a HUGE part of hacker culture. What hackers hate more than anything is not understanding stuff. I want you to get a sense for what it's like to be a part of the fun world of professional hackers.

Okay, so what do I consider a breach of integrity worthy of failure?

- Lying about anything to anyone in the class
- It could be as trivial as the reason why you didn't show up for class or do your part of a group assignment. Everybody screws up sometimes. Don't compound the mistake by

lying about it. We can forgive mistakes but it's VERY difficult to regain trust once it's broken. Swallow your embarrassment or fear and fess up.

- Stealing anything–this includes copying without attribution
- Stealing is just wrong, and since you have a blanket license to copy most any code you can find, there's no reason not to give people credit for the work they did. Passing someone else's original work off as your own is frankly disgusting.
- Threatening, antagonizing, or intimidating anyone in our learning community
- This is unacceptable behavior and will get you at least fired, if not sued in most every company you'd ever work for.

If you are in doubt about something, please ask your prof. Please feel free to come speak to your prof in confidence about anything in this course that troubles you. So far at JMU I've never had a problem with anyone's integrity (that I know about). Don't be the first group to ruin my perfect record. Thanks!

The Lead Coder

Hi, I'm Morgan. I'll be the lead coder for this journey.

As I've said:

Learning is essentially an artifact of relationship

So, in order to lead by example, here is a brief overview of my relationships, who I know and who knows me, and what roles we've played in each other's lives. But first, here's how you can begin relating to me:



Key Info

Office	EnGeo 2118 (office hours/coffee by appointment)
Email	bentonmc@jmu.edu
Cell	973-495-7736
Social	

Academic Community

Undergrad

I got a BA in Leadership Studies and Sociology (with a minor in Physics) in 1996 from the [University of Richmond](#) and the [Jepson School of Leadership Studies](#). (Jepson is kinda like ISAT, but for social science.) For my capstone I went to Capitol Hill and surveyed the IT directors of US Senators to try to figure out if the people who were making and passing laws about technology had actually ever used a computer. I was inspired to do this by an online petition I received related to some of the scarier provisions in the [Telecommunications Act of 1996](#). I was supported in my efforts by my professor Joanne Ciulla, whose unorthodox ideas (see her book [The Working Life: The Promise and Betrayal of Modern Work](#)) helped me become an outside-the-box thinker. My capstone partner, [Elizabeth MacKenzie Biedell](#), went on to work for the US State Department where she staffed Colin Powell, the CIA where she briefed the White House, and has become an [advocate for information sharing and against the over-classification of intelligence](#).

As an undergrad I did a lot of community service. I helped Richmond Habitat for Humanity raise close to \$50,000 and build four houses. I got schooled in basketball by kids at the Sacred Heart Center while I was volunteering in their after school program. I helped feed meals to homeless men, and learned a lot from them in the process. I left college with a deep commitment to serve, inspired by the words of one of my best friends, the Associate Chaplain David Dorsey, who said: There's nothing very "high" about "higher education" if it doesn't give something back to the community from which it was taken.

Another of my mentors was [Richard A. Couto](#) (who insisted that we call him Dick—very hard to do with a straight face if you're my age). I helped Dr. Couto produce [An American Challenge: A Report on Economic Trends and Social Issues in Appalachia](#). My job was to turn US census data into maps—perhaps the first time that I employed computer technology to help effect social change, this time for poor people in the Appalachian region.

These are just a few of the many people with whom I connected as an undergrad, who influenced me, and with whom I continue to connect to solve real problems for real people.

Grad School

I got an MS and PhD in Information Systems from [New Jersey Institute of Technology](#). It took me TEN YEARS (1998-2008)! For my dissertation, I built a web-based system to help teachers write better multiple-choice questions (MCQs). (Spoiler: it didn't really work.) In actuality, I hate multiple-choice questions and multiple-choice tests. My system was designed as a Trojan horse (figuratively—it was NOT spyware) to convince teachers that MCQs are more trouble than they

are worth. This grueling journey solidified my lifelong ambition to radically change education globally.

Along the way, I was lucky to receive guidance from [Dylan Wiliam](#), one of the world's foremost scholars on formative assessment. I met Dr. Wiliam while I was a graduate intern at [ETS](#) (you know, where they make the SAT and GRE), and he taught me a painful and enduring lesson—technology is not always the answer. His 1998 meta-analysis of hundreds of studies of classroom assessment has grounded and guided my teaching practice and research ever since.

Starr Roxanne Hiltz and Murray Turoff were the Distinguished Professors at NJIT who gave me my job there and made it possible for me to support my family while getting my PhD. They predicted the age of the Internet way back in 1978 in their book [The Network Nation](#). They were pioneers in online education, and there are still many of their ideas that haven't yet been implemented in modern online learning management systems.

I was teaching four courses per semester throughout my time at NJIT. I may have learned more from my students than from any other source. It was from my students that I learned humility, flexibility, and to see just how vicious the system is that binds us all together. I still have relationships with a number of them, and they continue to keep me on my toes.

Of course, my most important relationship in grad school was with my advisor, Marilyn Tremaine. Marilyn was one of the founding mothers of the field of human-computer interaction (HCI) and helped create one of the most vibrant and successful academic communities (the ACM's [SIGCHI](#)) of the last several decades. She let me live in her house. She showed me that even if I've been a total slacker, there's always something productive we can do with this week's meeting.

JMU

I began at JMU in August 2006 and have been here for over a decade. It is here that I've had the opportunity and freedom to put into practice many of the innovations in teaching that I've discovered over the years. The ISAT department deeply values creativity and autonomy, so while my colleagues may have offered (sometimes sharp) criticism over the years at my methods, nobody ever told me to stop, and many encouraged me to keep moving forward. I deeply value this aspect of the ISAT Department—the willingness to take risks to achieve great things.

That being said, it is my students who have had the biggest influence on me. It was Brian Rapp (ISAT '10), who, as my TA, first goaded me into trying my choose-your-own-grade strategy back in the spring of 2009. It was my capstone students who helped me write much of the software that I use in my teaching. It continues to be students like Cyril Thornton ('10), Adam Maas ('12), Chiedo John ('13), and Josh Erney ('14) who regularly ping me about new tech developments that help keep me at the cutting edge of my field. I feel deep gratitude every time a student opens up to me and allows me to play a part in their story.

I would be remiss if I didn't mention Nicole Radziwill. We teach together, research together, play together, live together. We started the [Burning Mind Project](#) together. We've published over half a dozen papers together and applied for over a million dollars in funding together. We've been to Burning Man three times and it is from her that I am constantly challenged to try new things, examine who I am, and continually reinvent myself.

There's plenty more to learn about me, and I strongly encourage everyone to invite me out for coffee or lunch or something! I look forward to getting to know each and every one of you better.