



University of Michigan
COMM 313, Winter '16
Prof. [Christian Sandvig](#)
<http://313.niftyc.org/>

IMPORTANT: Please use the course Web site and not this handout. Throw this away after you bookmark the Web site! The syllabus online will be updated as we progress.

Course Description

This course provides a look inside the technologies and infrastructures that make digital media function. Students investigate and manipulate code, formats, platforms, and networks in order to consider the relationship between these structures and the audio, visual, and interactive media representations that are possible. This includes material about search engines; audio, still, and motion picture formats; recommendation systems, bots, advertising and content distribution networks, and personalization algorithms. Although some topics will be technical, no previous technical experience is required or expected.

Course Credit

- This elective course has no prerequisites and is open to students from any major or level.
- Completing this course provides four hours of credit.
- This course counts as an "advanced communication study" elective for the Major in [Communication Studies](#).
- This course counts toward the [STS](#) Minor.
- This course counts toward the Minor in [Digital Studies](#).

Class Structure

The course consists of **two lectures** each week and **one lab section**. Class meetings supplement but do not duplicate the readings; readings supplement but do not duplicate the class meetings. Some of the course content is available only from class meetings and students are responsible for that material.

Overall, the bulk of the work in this course (55%) consists of a series of **lab assignments** building up to a final project. Lab sections (which begin in week 3) will include time to work on the lab assignments, but additional time will be necessary. All lab assignments and the final project **must be submitted** in order to receive a passing grade in the class. However, if you receive a poor grade on a lab assignment there will be an opportunity to revise it to improve your grade.

In-person attendance is required. However, some time after each lecture, a recording of the lecture will be made available on the course Web site, along with lecture slides. These are meant for review. In the

event that a lecture video is not made available (e.g., due to technical problems) you are still responsible for the content of that lecture. You are **expected to attend** lecture and attendance is part of your course grade. Students verify attendance in lecture by answering a short **lecture question** that may be posed at any time during the lecture, including the beginning.

Final projects may be completed alone or in a team of your choice. The **final project counts as a final exam** for this course: there is no other final exam. Quizzes are used instead of midterms in this course: there is no other midterm. There are no surprise or "pop" quizzes.

Overall Class Requirements

- Attend all lectures, lab sections, and the final exam period.
- Submit the lab assignments, take three quizzes, and complete a final project.
- Thoughtful, informed participation during lab sections, in-lecture exercises, and when answering lecture questions.

Grading

This course contains a broad spectrum of students with different skills, from noobs to hackers and in between. In order to ensure that those less comfortable are not at a disadvantage, this course is **not graded on a curve**, there are opportunities to revise assignments for a better grade, and there are extra credit opportunities. The teaching staff reserves the right to award additional points to reward remarkable effort and an upward trend in your work regardless of your starting point.

Your **final grade** will be weighted:

Lab Assignments: 40%
Quizzes: 30%
Final Project: 15%
Attendance and Participation: 15% (*)

(*) Attendance and Participation includes lab section attendance, lecture attendance, answering the lecture questions, and more generally your overall quality and quantity of contribution to the course.

Hacker Mode: If you already know the material in one of the lab assignments, you are welcome to propose a significantly modified version or an alternative (but related) assignment that would be beneficial for you. Proposals for hacker mode should be e-mailed to bdigitalscreen@umich.edu soon enough that you still have enough time to complete the modified assignment -- ideally just after the assignment you wish to modify is released. A short, one-paragraph proposal is fine.

Hacker mode assignments will be graded in place of the normal assignment, and hacker mode assignments will also receive between 1 and 5% of **extra credit** just for completing a Hacker mode, regardless of the grade on the assignment. Hacker mode proposals should always be harder and/or more work than the original assignments. Do not begin work on a modified assignment until this has been approved by the instructors.

Textbooks

There are **no required textbooks** for this course.

Course readings will be provided to you electronically at least two weeks before the reading is expected to be read (with the exception of the readings in the first two weeks). If you wish to read ahead or would like additional information about the course material, purchase or borrow the optional textbooks.

Optional textbooks:

- Rushkoff, Douglas. (2011). *Program or be Programmed*. Soft Skull Press/OR Books: New York.
- Comer, Douglas E. (2007). *The Internet Book*. (4th ed.) Pearson/Prentice-Hall: Upper Saddle River, NJ. (Important: Do not use an earlier edition of this book as it describes an earlier Internet.)
- Duckett, John. (2011). *HTML and CSS: Design and Build Web Sites*. John Wiley & Sons: New York.
- Anderson, Erin et al. (2010). *InterACT with Web Standards*. (1st ed.) New Riders Press. Berkeley, CA.

Materials

Some assignments may involve specialized software and/or small **online purchases**. We think about these costs as we do textbook costs. We will make any required software available for you on university computers, but if you wish to obtain this software for your own computer you are responsible for the cost. We promise that we will recommend free or inexpensive software to you whenever possible. If assignments involve online purchases, we do not anticipate the overall semester total will exceed \$30, and in the past it is typically \$0. An assignment involving an online purchase will probably require the use of a credit card. If you don't have a credit card, but you have someone you trust that will buy things for you (mom?) that will also work. If these costs are prohibitively expensive and would make it impossible to participate, e-mail the primary instructor during the first two weeks to make alternate arrangements.

Major Deadlines

Deadline dates may change as the semester progresses. See the [schedule](#) for deadlines.

The final project will be due during **the final exam period** for this course (Wednesday, April 27, 2016; 8-10 a.m.). You **must attend** the final exam period.

The /afk Pass: You get two /afk passes during the semester. Each pass gives you an automatic 24-hour extension on a lab assignment. You can spend both of them on one assignment (for 48 hours) or one pass on each of two different assignments. You spend your /afk passes by being late, there is no need to tell anyone.

Quizzes

There will be three multiple-choice quizzes given during the lecture period. These are **closed book** except that you may prepare and bring to class one 8 1/2 x 11" **sheet of notes** (typed or written) to consult during the quiz. You may use this sheet and a pencil to take the quiz. No other aids may be used.

There will be **no pop quizzes** or surprise quizzes.

Schedule

Except for the final exam period, these dates may be adjusted to reflect our progress (or lack of it). Assigned readings more than two weeks ahead may be changed. (To read ahead, buy the optional books.) All this means that you should **check the class Web page regularly for updates**.

Week 1: Introduction 6 Jan (W)

Week 2: Analog vs. Digital 11 Jan (M), 13 Jan (W)

read [Rushkoff excerpts](#), watch [Wired Science: Analog vs. Digital](#) (video, 9 mins.)

Recommended: read [Comer Ch. 4](#)

Optional: [Comer Ch. 5](#)

Week 3: Digital Convergence 18 Jan (M), 20 Jan (W)

No class Monday: [MLK](#). Lab sections begin meeting.

read [Comer Ch. 6](#), [Comer Ch. 12](#), & [Comer Ch. 14](#)

Week 4: Internet Architecture 25 Jan (M), 27 Jan (W)

[InterACT Ch. 10-11](#) and [InterACT Ch. 12-13](#).

Recommended: watch [Packet Switching in 18](#)

[Seconds](#) (video) and **only** the first 3 minutes of [How Does the Internet Work?](#) (video)

Week 5: Markup and Layout Languages 1 Feb (M), 3 Feb (W)

[Assignment #1](#) due (Monday).

read [Interact Ch. 14](#), [Interact Ch. 15-16-17](#)

Week 6: Search Engines, Algorithms 8 Feb (M), 10 Feb (W)

Quiz #1 (Monday).

read [Bartelle Excerpts](#)

Optional: read [Comer Ch. 27](#)

Week 7: Programming Fundamentals 15 Feb (M), 17 Feb (W)

[Assignment #2](#) due (Monday).

read [Mahan's Scratch Tutorial](#) (on the Web).

Week 8: Programming Fundamentals (cont'd) 22 Feb (M), 24 Feb (W)

Readings TBD.

Week 9: Spring Vacation (NO CLASS) 29 Feb (M) & 2 Mar (W)

Week 10: Gaming 7 Mar (M), 9 Mar (W)

Readings TBD.

Week 11: Internet Platforms 14 Mar (M), 16 Mar (W)

[Assignment #3](#) due (Monday).

read [Comer Ch. 13](#), [Comer Ch. 15](#), [Comer Ch. 16](#).

Week 12: Feeds 21 Mar (M), 23 Mar (W)

Quiz #2 (Monday).

read [Comer Ch. 18](#), [Mueller Ch. 2](#).

Week 13: Ads and Online Audience Tracking 28 Mar (M), 30 Mar (W)

[Assignment #4](#) due (Monday).

read Wibbels [blog post](#).

Week 14: Application Programming Interfaces 4 Apr (M), 6 Apr (W)

read [InterACT Ch. 19](#)

Optional: [InterACT Ch. 18](#)

Week 15: User Experience Design

11 Apr (M), 13 Apr (W)

[Assignment #5](#) due (Monday)

Sign-up for your final project team and topic by Monday.

Choose your own readings related to your final project topic.

Week 16: Life After #bDigitalScreen

18 Apr (M)

Quiz #3 (Monday).

No class on Wednesday -- classes end.

Choose your own readings related to your final project topic.

Finals Week: Final Project Fair

27 Apr (W): 8:00-10:00am, room TBA

(counts as FINAL EXAM, attendance required.)

Instructors / Getting Help

Stuck on an assignment? First, check the optional [resources given with the assignment](#). Review the [slides and recordings from lecture](#). If it's not urgent, bring your question to your lab section.

Check in With Your Tweeps -- See what other students are stuck on. Maybe someone else has solved your problem? Search for the hashtag [#bDigitalScreen](#) on twitter. (You might also try tweeting for help with the hashtag [#bDigitalScreen](#).)

Try our "Ask an 'A' Student Service" -- CRAs Kelsey and Judy have already passed courses just like this one. If the advice of a student would be helpful, send them an e-mail:

bdigitalscreen-help@umich.edu

Kelsey and Judy have agreed to keep your questions anonymous. They do not participate in grading.

Contact an Instructor -- **Instructors sometimes tweet** material related to the class at [@bDigitalScreen](#) but (just like everyone else on twitter) they may not notice twitter DMs or @ mentions. If you want an answer, e-mail them.

Instructor: Professor **Christian Sandvig**

Office: 5385 North Quad

My mailbox is in the Communication Studies 5th floor mailbox room (5334 North Quad)

Office Hours: 11:00 a.m. - 12:00 p.m. Wednesdays and by appointment

Office Telephone: 265-6287

E-mail: csandvig@umich.edu

Graduate Student Instructor: **Kitior Ngu**

Office: 5344 North Quad

Office Hours: Tuesdays 10:30 - 11:30 and by appointment

E-mail: kitior@umich.edu

Curricular Research Assistant: Judy Kim

Curricular Research Assistant: Kelsey Belyea

Note that CRAs do not hold office hours.

Class Policies

Class Attendance. You are expected to attend all class meetings and to be on time for class. Attendance is taken and factored into your grade (see "attendance and participation" above). Attendance may be taken at the beginning of class. If you arrive after attendance is taken this is counted as an absence.

Electronics in the Classroom. No laptops, phones, or other electronics are allowed to be used during lecture unless an instructor specifically requests them for an in-lecture activity. If you need to use electronics during lecture for a legitimate reason, please ask an instructor. During lab sections, any electronics that are useful to you are welcome. Some students prefer to bring their own laptop rather than using the university's lab computers.

Late work and examinations. You are responsible for planning ahead and taking whatever steps are necessary to allow you to turn in assignments on the specified due dates and to be present for quizzes and the final exam period. Late work will not be accepted except in documented cases of illness or emergency (see below). Computer problems are not acceptable as an excuse for late work: many assignments in this class require unfamiliar game software, allow enough time to get help if you have problems. (It is hard to help you when presented with a problem five minutes before an assignment is due.)

Extended Illness, Emergencies, or Other Serious Unforeseen Situations. If an illness makes it impossible for a student to attend to their responsibilities, they must contact [the LS&A Dean's office of student affairs](#) and report the problem. For example, students may use the LS&A "[Report an Illness](#)" form. The Dean's office will then notify all of the student's instructors. I will then make any necessary accommodations after receiving notice from the Dean's office and reviewing documentation of the illness. In the event of an emergency or other serious unforeseen situation, the student should seek help from [the Dean of Students](#).

Academic Integrity. Unless otherwise stated in a specific assignment, all submitted work must be your own. The College's [community standards of academic integrity](#) contain very strict and explicit policies prohibiting plagiarism, cheating, fabrication, and facilitating these acts. Penalties for violations can be severe, such as an automatic failing grade in the course and/or disciplinary suspension from the university. These rules will be strictly enforced. Note that it is a violation of academic integrity to turn in the same work for more than one assignment without permission. However, material written in reading diaries can be used as part of other class assignments.

Students with Disabilities. If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way the course is usually taught may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Services for Students with Disabilities (SSD) office to help us determine appropriate academic accommodations. SSD (734-763-3000; <http://ssd.umich.edu>) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. Any

information you provide is private and confidential and will be treated as such.

Student Mental Health and Wellbeing. The University of Michigan is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and <https://caps.umich.edu/> during and after hours, on weekends and holidays, or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (734) 764-8320 and <http://www.uhs.umich.edu/mentalhealthsvcs>, or for alcohol or drug concerns, see <http://www.uhs.umich.edu/aodresources>. For a listing of other mental health resources available on and off campus, visit: <http://umich.edu/~mhealth/>.

Sexual Misconduct. The University of Michigan is committed to fostering a safe, productive learning environment. University policy prohibits discrimination on the basis of sex, which regards sexual misconduct — including harassment, domestic and dating violence, sexual assault, and stalking. Sexual violence can undermine students' academic success and the university encourages students who have experienced some form of sexual misconduct to talk to someone about their experience, so they can get the support they need. Confidential support and academic advocacy can be found with the Sexual Assault Prevention and Awareness Center (SAPAC) on their 24-hour crisis line, 734-936-3333 and at <http://sapac.umich.edu/>. Alleged violations can be non-confidentially reported to the Office for Institutional Equity (OIE) at institutional.equity@umich.edu. Reports to law enforcement can be made to University of Michigan Police Department at 734-763-3434.

Legal Thingy

We record parts of our course to help students review the course material. To make this possible, by enrolling in this course as a student you authorize the University of Michigan and the COMM 313 instructors, and anyone that the University or COMM 313 instructors may permit, to film, videotape, audio record, and photograph you during COMM 313 activities for subsequent broadcast or other dissemination in perpetuity through any media, which includes, without limitation, commercial and public radio, television, cable, and the Internet. And you acknowledge that you might not receive a copy of any film, videotape, audio recording, photograph, or computer file that is or may be produced. If you wish to opt-out of the lecture recording process contact the professor and you can be seated in an area of the lecture room not covered by a camera if a camera is being used. You should also be sure to avoid volunteering to participate in any recorded lecture activities (such as demos) at the front of the room if there is a camera present. As there are a variety of vehicles for course participation credit, avoiding lecture demos will not disadvantage your performance in the course.

(tl;dr)