## The University of Iowa

# School of Library and Information Sciences Fall 2016

Course	SLIS 5020: Computing Foundations	
Course Schedule	Mondays 4:30-7:15, 3092 Main Library	
Instructor	Lindsay Mattock	
Office Location	3072 Main Library	
E-mail	lindsay-mattock@uiowa.edu	
Course Website	computingfoundations.slack.com	
Office Hours	Weekly on a rotating schedule or by appointment	

## **Course Overview**

In this course, we will begin to break into the "black box" of the computer. The LIS field demands professionals who are competent in computing and comfortable working with digital platforms and tools. Computing is more than simply sending email, building webpages, and creating documents. In this course, we will utilize the Raspberry Pi to fully explore hardware, software, and the tool that we call the computer. As a survey course, we cannot possibly address every technology that you will encounter in your practice. Instead, the goal of this course is to provide you with an opportunity to explore various aspects of computing and to think about and critically engage with hardware and software.

To be successful in this course you must: tinker, play, build, make, tweak, experiment, hack, and break things. You will push your boundaries and the boundaries of the technology, ask many questions of yourself and your peers, be confused and/or frustrated and/or lost, dig yourself out of those traps and think deeply about the digital tools that you will engage with during your time here at SLIS, in your professional posts, and in all other aspects of your life. This course is not about gaining mastery of particular tools, but rather building the skills and experience that will allow you to be comfortable and confident engaging with and evaluating new and familiar technologies.

## **Course Website and Technology**

We will be using Slack as our learning management system (LMS). As a blended cohort of online and on-campus students, I believe that this messaging application will help to "level the playing field" for students participating in either modality by ensuring that everyone's voice is heard. As we will work independently and collaboratively to complete projects, Slack provides a single space to share documents, post messages and questions, host video conversations, and share general information of interest. We will use slack as a team during each weekly class session and continue the conversation asynchronously during the week. In addition, group office hours will be scheduled on a rotating schedule and hosted on Slack.

In addition to Slack, online students will use the Zoom video conferencing tool to virtually attend class each week. Skype and Google Hangouts have also been integrated into the Slack app to be used during office hours or anytime students wish to host a group conversation.

Each student will receive an invitation to the Computing Foundations Slack team computingfoundations.slack.com prior to the first class session. We will review the tool and its functions during our first class session.

All students are expected to use these tools respectfully. Meaningful and constructive dialogue is encouraged in this course and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. Respect for individual differences and alternative viewpoints will be maintained at all times.

## **Required Technology**

Each student must purchase a Raspberry Pi by the third week of class. The Raspberry Pi is a credit card sized computer that will allow us to build servers and webpages, experiment with programming in Python, and work with content management systems like Omeka. If none of these terms is familiar, do not despair - the Raspberry Pi is a blank slate from which we will all work together to complete the projects as a group.

You will each need to purchase a Raspberry Pi and a few essential pieces of hardware to make it functional. You'll want to have your Pi in hand for our third class meeting - September 12th. I suggest that you purchase a kit that contains all of the bits and pieces that you will need. I recommend this Raspberry Pi 3 kit from amazon, or an equivalent https://amzn.com/B00MV6TAJI. Kits can also be purchased from Element 14 https://www.element14.com/community/community/raspberry-pi, Allied Electronics http://www.alliedelec.com/raspberry-pi/, and SparkFun https://www.sparkfun.com/categories/233.

You will need a kit that contains at a minimum:

- 1. Raspberry Pi Model 3 or 2 (I recommend the 3 as it has an internal Wi-Fi adapter)
- 2. 16G or larger Class 10 Micro SD Card (with NOOBS and Raspbian installed)

3. Power supply

4. HDMI cable (or HDMI output to an input appropriate for your monitor)

5. Wi-Fi adapter – for Model 2 only

In addition to these components, you'll need access to a monitor with a HDMI port and a USB keyboard and mouse. If you are taking the on-campus version of the course, the monitor, keyboard, and mouse will be available for you. You can also elect to purchase a Raspberry Pi touchscreen if you'd prefer to have a monitor attached to the Pi. You'll still want a keyboard and mouse for some of the tasks.

## **Required Textbooks**

There are no required texts for this course. The required readings and class projects for each week are available electronically through the University Libraries or on the course website.

## Semester at a Glance

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Week 1   August 22	Introduction to the Course
Week 2   August 29	Binary, Bits, and Basics
September 5	Labor Day
Week 3   September 12	Getting Started with Raspberry Pi
Week 4   September 19	Networking and Servers
Week 5   September 26	Networking and Servers, continued
Week 6   October 3	Open Lab
Week 7   October 10	HTML and CSS
Week 8   October 17	XML and XSLT
Week 9   October 24	Python
Week 10   October 31	Open Lab
Week 11   November 7	Content Management Systems
Week 12   November 14	Content Management Systems, continued
November 21	Thanksgiving
Week 13   November 28	Open Lab
Week 14   December 5	Open Lab

## **Course Work and Final Grades**

#### Notes on Grades

Your work will be assessed on a three-point scale:  $\sqrt{1}$ ,  $\sqrt{+}$ ,  $\sqrt{-}$ . Detailed rubrics have been provided for each of the check-points that outline the specific requirements.

√+	V	√-
Exceeds expectations	Meets requirements	Fails to meet expectations

At the end of the term the totality of your work will be assessed according to the Final Grade Rubric.

## Course Work at a Glance

Grade Point	Due Date
Weekly Attendance	Throughout term
Weekly Check-In	Weekly, throughout term
Lab Notebook	September 5
	September 19
	October 10
	November 7
	November 21
	December 12
Final Reflection	Monday, December 5

## 1. Weekly Attendance Recorded weekly and evaluated at the end of term

Each weekly class session will be dedicated to the completion of several Raspberry Pi based projects. We will work together as a class to support each other to complete each project. As such, regular and punctual attendance in class is expected. Your attendance will be recorded each week and a mark will be assessed at the end of the term according to the following rubric:

√+	1	√-
You have attended all	You have missed no	You have missed more
of the required class	more than 2 of the	than 2 of the required
sessions; have arrived	required class sessions;	class sessions; and/or
on-time and	or have arrived late/left	have frequently arrived
participated in the	early a few times during	late or left class sessions
course until dismissed	the term	early

## 2. Weekly Check-In Due weekly throughout term

During the last 15 minutes of each class session you will complete a short open-book, openneighbor quiz related to the topic for the week. Each quiz will include a few short answer questions based on the major concepts or theories introduced in the assigned reading and projects, along with two reflective questions (What was the most interesting/surprising/shocking point? and What was the muddiest/most difficult/confusing point?), and a final short answer section for you to report on your progress towards completing the current project.

This assignment will serve as a check-point so that I can ensure that everyone is clear on the major concepts and theories introduced in class. This is also an opportunity for you to review and reflect on the week and provide feedback to me. I will condense your responses and use them at the beginning of the following week of class to clarify any unclear points, and/or provide additional information of interest, and/or modify the following class session to meet the needs of the class. Each check-In will be evaluated according to the following rubric:

$\sqrt{+}$	$\checkmark$	√-
Includes robust, thoughtful,	Includes clear and	Includes brief answers to
detailed answers to the short	thoughtful answers to	the short answer questions
answer questions that make	each of the questions the	and reflection questions
reference to the required	questions, attempting to	with little reflection or
reading, lecture, and exercises;	define concepts in your	connection to the course
reflects deeply about the week's	own words. Contains a	materials, that is the
materials and activities in	brief response to each of	answers are pulled directly

responding to the final two	the reflection questions	from the course materials
questions, providing a clear		with little attempt to define
explanations and justification for		concepts in your own
your answers		words.

## 3. Lab Notebook: Process Report and Reflection

# Due Monday, September 5, September 19, October 10, November 7, November 21, December 12

Throughout the course of the term, we will be working on a number of projects with the Raspberry Pi. At the beginning of each project, you will be provided with a set of instructions that will guide you through the successful completion of the project. You will journal your experience working through each project in two ways: (1) a process report and (2) a reflection on the process. You can think about these reports as your lab notebook or journal.

While working through each of the projects, you will keep detailed notes about the process of completing the task. The process report should include the time required to complete each project, detailed steps that you took, the questions that you had, reflections on what you have learned, the problems that you encountered, the sources that you used to solve these problems, along with any other particulars that will document your work (screen shots, video walkthroughs, excerpts from lines of code). Someone reading the process document should be able to replicate the steps that you took to complete the project, including any missteps, slide-lines, or dead-ends.

At the end of each project, you will write a brief reflection summarizing what you have learned and how you learned during the process of completing the project. The reflection should provide an analysis of the experience, drawing upon the course topics, themes, and readings, along with your personal experiences. Someone reading your reflection should have a sense of why this project was significant to your learning, how your understanding of computing has changed (or not), and how the project has impacted your understanding of technology in your LIS practice. This section of your lab notes should extend beyond mere reporting and demonstrate that you have reflected upon your experience and thought critically about the exercise.

You are free to decide how you would like to format your notebook. It may be analog or digital, but must be submitted as a digital file by the stated deadlines. Your work will be evaluated according to the following rubric:

Requirement	√+	V	√-
Process, Observations & Results	Each report describes the process that you used to complete the assignment, along with the observations and questions that you had along the way. The report clearly articulates how you accomplished the assignment goals, reporting on the results of each step, including both your successes and failures. The report includes a description of the results of the steps throughout the process: what worked?, what didn't work?, what results were expected?, what was unexpected?, what was unexpected?, where did you turn for help or clarification? The report provides sufficient detail for someone to repeat the steps that you took to complete the exercise, including screenshots, diagrams, snippets of code, and other details. The report extends beyond the project instructions and begins to interrogate the processes and procedures of the exercise.	Each report provides a description of the steps taken to complete the assignment. The report provides details about your particular approach, and observations. The report demonstrates that you were able to complete the assignment.	The report simply repeats the provided instructions and fails to provide any personal details as to how you approached the assignment and what you observed while completing the assignment.

Reflection & Analysis	The reflection provides an analysis of your experience, clearly describing what you learned by completing the project and how you learned. The reflection is further supported by observations from class discussion, assigned readings, or experiences in the LIS field. This section of the lab notebook demonstrates a critical engagement with the technology, asking deeper questions about the nature of the project and the significance to the LIS field.	The reflection summarizes your experience completing the assignment and provides some analysis of the experience by articulating what you have learned.	The reflection provides only a summary of the experience and does not engage with what was learned or how learning occurred through the process.
Clarity of Writing	The lab report demonstrates evidence of proofreading and proper use of grammar and punctuation. Any citations are properly formatted according to <i>Chicago</i> <i>Manual of Style</i> with footnotes and bibliography.	The report and citations contain a few minor proofing errors.	The report contains significant errors in grammar and punctuation that effect the clarity of the document. Citations are not formatted according to Chicago Manual of Style.
Organization	The report is clearly organized, including a table of contents and separate headings for each section. Screenshots, code snippets, and other documentation contain captions and clear references in the body of the report.	Each report is clearly organized so that the steps in the process, the results, analysis, and reflection are clearly outlined.	The report lacks any clear organization and is difficult to read.

## 4. Final Reflection – Letter to a Future Student Due Monday, December 5

While each of you will have an opportunity to provide feedback via the course evaluation at the end of the term, this final reflection is intended to give you an opportunity to reflect on the course and its impact on your progression towards the MILS degree and a career as an LIS professional. Each of you will write a 2-3 page letter addressed to a future MLIS student evaluating and critiquing the course and your performance over the course of the term. Each letter should reflect on your personal experience by selecting key experiences to support your critique. Each reflection must be formatted as as formal letter (see owl.english.purdue.edu/owl/ resource/653/01/ for guidance).

Requirement	<b>√</b> +	V	√-
Self- Reflection	The letter openly examines your personal experience and observations as a participant in the course, carefully selecting key observation and experiences as evidence to support your analysis and critique.	The letter provides an overview of your experiences, but fails to pinpoint the key observations that support your argument(s) and critique.	The letter summarizes the course activities, but fails to reflect on your personal experience.
Analysis	The letter moves beyond simple description of your experience to an analysis of the key strengths and weakness of the course as well as an evaluation of your performance as a student. The letter synthesizes, analyzes, and thoughtfully evaluates issues and ideas introduced in the course, the course projects, reading materials, and the	The letter examines the course and makes an argument about the strengths and weaknesses of the course. The letter addresses a future student in the MLIS program, but fails to engage the larger conversation related to LIS education and professionalization at a national or global scale.	The letter fails to provide an analysis or evaluation of your experience and simply reports on the course activities.

The assignment will be evaluated according to the following rubric:

	technologies that we used. Further, the letter connects this course to LIS education and professionalization as a whole.		
Clarity of Writing	The letter demonstrates evidence of proofreading and proper use of grammar and punctuation. Any citations are properly formatted according to <i>Chicago Manual of Style</i> with footnotes and bibliography.	The letter and citations contain a few minor proofing errors.	The letter contains significant errors in grammar and punctuation that effect the clarity of the document. Citations are not formatted according to Chicago Manual of Style.

## 5. Final Grade

## Evaluated at the end of term

Your work throughout the term will be evaluated at the end of the semester after all of your work has been submitted. At this point, a letter grade will be determined according to the following rubric:

Letter Grade	Description of Work
A	<b>Exceptional work:</b> Demonstrates an outstanding understanding – both theoretical and factual – of the course materials. This is work that consistently exceeds expectations, that is, your work has been consistently evaluated with a $\sqrt{+}$ throughout the term. Your marks include no more than 5 $$ and no $\sqrt{-}$ 's.
A-	<b>Outstanding work:</b> Demonstrates comprehensive knowledge of the course materials. Greatly surpasses course expectations. Your record contains no more than $10 \sqrt{marks}$ . There are no $\sqrt{-5}$ in your record.
B+	<b>Very good work:</b> Demonstrates a better-than-average command of the course materials. This grade is awarded to work that exceeds course expectations Your record contains more $\sqrt{+}$ than $\sqrt{-}$ marks. A record earning this grade will demonstrate improvement over the term.

В	<b>Solid work:</b> Demonstrates expected command of the course materials. This grade is awarded to work that meets course expectations. Your work has consistently earned $$ marks throughout the term, that is, the number of $$ marks is greater and more consistent than $\sqrt{+}$ or $\sqrt{-}$ marks.
В-	Marginal work: Demonstrates an incomplete understanding of the course materials. This work does not meet course expectations. Your work has consistently earned √- marks, demonstrating little or no improvement over the course of the term. Please note that a B- does not count towards your degree progression and the course will have to be retaken (see "Academic Progress" on page 7 of the <i>SLIS Student Handbook</i> https://slis.grad.uiowa.edu/current-students).
С	Unacceptable work in a graduate program: This work fails to meet course expectations. Students earning below a B- have failed to submit assignments or otherwise received no credit on assignments and consistently earned √- marks.
F	Failing grades are reserved for extreme circumstances when work has not been submitted or in cases of plagiarism. Please refer to the course "Academic Integrity" policy on page 11 of this syllabus.

## **Class Policies**

## Office Hours

With the variances is everyone's work and class schedules, it is difficult to agree upon one particular time that suits everyone's needs. Therefore, formal office hours will not be scheduled. Instead, I will make myself available through the course website multiple times during the week for chats via Slack or Skype. These times will be negotiated and announced during Monday's class session each week. Students are always welcome to schedule individual appointments as well.

## Assignment Deadlines

All assignments will be submitted to Slack via private message. Assignments are due by 4:30pm on the due date stated in the syllabus. Late assignments will not be accepted. This policy protects both your time and mine. Timely submission allows me to fairly evaluate everyone work. It also ensures that you will remain on track to complete all of your work by the end of the term. I will make exceptions for extenuating circumstances, so please reach out to me if you believe

that you cannot meet an assignment deadline. See the *Extenuating Circumstances and Incomplete Grades.* 

## Extenuating Circumstances and Incomplete Grades

Life happens – I realize that all of you are balancing other courses along with, work, families, pets, etc., etc., etc., while completing your degree. While I believe that you must attend class each week to get the most out of this course, I understand that extenuating circumstances (illness, bereavement, etc.) may interfere with your ability to participate fully in the course. It is your responsibility to contact me as soon as possible if such a circumstance will prevent you from completing the coursework according to the set schedule or attending a class session. I will then work with you to determine the best path forward for your particular situation. Incomplete grades will only be granted under these circumstances.

## Academic Integrity

All students are expected to adhere to the standards of academic honesty. Citation is one of the key competencies of information literate individuals and as such it is crucial for LIS professionals to learn the standards of and practice proper attribution. It is your responsibility to ensure that you are following these standards. Any student engaged in plagiarism, cheating, or other acts of academic dishonesty, will be subject to disciplinary action.

The Chicago Manual of Style 16<sup>th</sup> Edition stresses the importance of providing proper attribution when reusing the materials of others, arguing that this practice "not only bolsters the claim of fair use but also helps avoid the accusation of plagiarism."<sup>1</sup>

Plagiarism is a serious offence that includes:

- stealing or passing off the ideas or words of another as one's own
- using another's work without crediting the source
- committing literary theft
- presenting as new and original a product or idea derived from an already existing source<sup>2</sup>

Plagiarism can be avoided by following the guidelines for proper citation and paraphrasing. Sections 13.1-13.6 of the *Chicago Manual of Style 16<sup>th</sup> Edition* 

<chicagomanualofstyle.org/16/ch13/ch13\_toc.html> may be referenced for guidance. The University Writing Center <writingcenter.uiowa.edu> is another on-campus resource that is available to all students enrolled in course at the University.

<sup>&</sup>lt;sup>1</sup> The Chicago Manual of Style, 16<sup>th</sup> Edition (Chicago: The University of Chicago Press, 2010): 190.

<sup>&</sup>lt;sup>2</sup> *Merriam-Webster Online*, s.v. "plagiarize," accessed January 6, 2016, http://www.merriam-webster.com/dictionary/plagiarize

Acts of plagiarism will be evaluated by the professor on a case-by-case basis and will be reported to the department. No credit will be given for plagiarized assignments. Minor transgressions will be documented in the student's departmental file. If the case is deemed to be sufficiently egregious, the offence will be reported to the Graduate College and may result in expulsion from the program. Please review the policies in the *School of Library and Information Science Student Handbook* slis.grad.uiowa.edu/current-students and the *Graduate College Rules and Regulations* grad.uiowa.edu/manual-part-1-section-iv-academic-standing-probation-and-dismissal.

## Students with Disabilities

Many students require particular accommodations in the classroom. I am happy to work with you to ensure that you have the best learning experience possible. If you are or may be requesting an accommodation, please speak with me privately and contact Student Disability Services, 3015 Burge Hall, 319-335-1462/319-335-1498 (TTY), as early as possible in the term. This will ensure that we both have all the tools and information that we need to have a successful semester working together. A comprehensive description of the services of that office can be obtained at http://sds.studentlife.uiowa.edu.

## **Reading and Topic Schedule**

The required reading is to be completed **before** class each week and will be referenced in the weekly project materials. Required readings are available electronically through the course website or the University of Iowa Libraries. Please note that the reading/topic schedule may be modified to suit the needs of the class. We will discuss any changes as a group before they are made.

## Week 1 | Aug. 22 – Introduction to Computing Foundations

## RECOMMENDED READING

- ACRL, "Information Literacy Competency Standards for Higher Education," http://www.ala.org/acrl/standards/informationliteracycompetency
- Iowa CORE, "Technological Literacy," https://iowacore.gov/iowa-core/subject/21st-centuryskills/2/technology-literacy
- Office for Information Technology Policy's Digital Literacy Task Force, "Digital Literacy, Libraries, and Public Policy," (January 2013), http://www.districtdispatch.org/2013/01/on-the-front-lines-of-digital-inclusion/

#### **REQUIRED READING**

- Jean-François Blanchette, "A Material History of Bits," Journal of the American Society for Information Science and Technology 62, no. 6 (2011): 1042–1057.
- Christopher A. Lee, "Digital Curation as Communication Mediation," in *Handbook of Technical Communication*, Volume 8 (Boston: De Gruyter Mouton, 2012): 507-530.
- Charles Petzold, "Bit by Bit by Bit," and "Bytes and Hex," *Code: The Hidden Language of Computer Hardware and Software* (Redmond, WA: Microsoft Press, 2000): 69-85 and 180-189.

#### RECOMMENDED READING

- Paul E. Ceruzzi, A History of Modern Computing, 2<sup>nd</sup> edition (Cambridge, MA: MIT Press, 2003). http://site.ebrary.com/lib/uiowa/Doc?id=10229592
- Douglas Rushkoff, Program or be Programmed: Ten Commandments for a Digital Age (Berkeley: Soft Skull Press, 2010).
- Gerald M. Weinberg, The Psychology of Computer Programming, Silver Anniversary Edition (New York: Dorset House, 1998).

## **SEPTEMBER 5 – LABOR DAY**

## Week 3 | Sept. 12 - Getting Started with the Raspberry Pi

#### **REQUIRED READING**

- Ryan Heitz, "Meet Raspberry Pi," *Hello Raspberry Pi!* (Shelter Island, NY: Manning, 2016): 3-32.
- Ron White, "How Software Works," How Computers Work, Ninth Edition (Indianapolis, Que, 2008): 80-145.

#### RECOMMENDED

Simon Monk, Raspberry Pi Cookbook (Cambridge: O'Rilley, 2014).

Richard Wentk, Teach Yourself Visually: Raspberry Pi (Indianapolis: John Wiley & Sons, 2014).

## Week 4 | Sept. 19 – Networking and Servers

#### **REQUIRED READING**

- Thomas Dowling, "Starting Points," *Library Technology Reports* no. 1 (January/February 2003): 4-10.
- Ron White, "How the Internet Works," *How Computers Work, Ninth Edition* (Indianapolis, Que, 2008): 306-397.

#### RECOMMENDED

Daniel J. Barrett, Linux: Pocket Guide (Cambridge: O'Rilley, 2012).

Simon Monk, Raspberry Pi Cookbook (Cambridge: O'Rilley, 2014).

William E. Schotts, Jr. *The Linux Command Line: A Complete Introduction* (San Francisco: No Starch Press, 2012).

Richard Wentk, Teach Yourself Visually: Raspberry Pi (Indianapolis: John Wiley & Sons, 2014).

## Week 5 | Sept. 26 – Networking and Servers, continued

#### **REQUIRED READING**

- Marshall Breeding, "Network Basics," "Wireless Basics," and "The Library Wireless Hotspot," Library Technology Reports no. 5 (September/October 2005): 8-20, 31-36.
- Marshall Breeding, "Issues and Technologies Related to Privacy and Security," *Library Technology Reports* 54, no. 4 (May/June 2016): 5-12.

#### RECOMMENDED

Simon Monk, Raspberry Pi Cookbook (Cambridge: O'Rilley, 2014).

Richard Wentk, Teach Yourself Visually: Raspberry Pi (Indianapolis: John Wiley & Sons, 2014).

Daniel J. Barrett, *Linux: Pocket Guide* (Cambridge: O'Rilley, 2012).

## Week 6 | Oct. 3 – Open Lab

#### NO REQUIRED READING

## Week 7 | Oct. 10 - HTML and CSS

#### **REQUIRED READING**

R. Todd Vandenbark, "Tending a Wild Garden: Library Web Design for Persons with Disabilities," Information Technology and Libraries 29 no. 1 (March 2010): 23-29.

w3Schools.com, "HTML Introduction," http://www.w3schools.com/html/html\_intro.asp

w3Schools.com, "CSS Introduction," http://www.w3schools.com/css/css\_intro.asp

#### Week 8 | Oct. 17 – XML and XLST

#### **REQUIRED READING**

Amy McCrory and Beth M. Russell, "Crosswalking EAD: Collaboration in Archival Description," *Information Technology and Libraries* 24, no. 3 (September 2005): 99-106.

Julie Meloni, "A Pleasant Little Chat about XML," ProfHacker (blog), October 6, 2009.

TEI <Text Encoding Initiative>, "A Gentle Introduction to XML," http://www.teic.org/release/doc/tei-p5-doc/en/html/SG.html

#### RECOMMENDED READING

Erik T. Ray, Learning XML, Second Edition (Cambridge: O'Rielly, 2003).

## Week 9 | Oct. 24 – Python

#### **REQUIRED READING**

Swaroop C. H., "About Python," A Byte of Python http://python.swaroopch.com/about\_python.html

Charles Petzold, "The Graphical Revolution," *Code: The Hidden Language of Computer Hardware and Software* (Redmond, WA: Microsoft Press, 2000): 364-382.

Andromeda Yelton, "Political and Social Dimensions of Library Code," and "Learning to Code," *Library Technology Reports* (April 2015): 22-30.

#### RECOMMENDED READING

Alex Bradbury and Ben Everard, Learning Python with Raspberry Pi (Hoboken: Wiley, 2014).

Ryan Heitz, Hello Raspberry Pi! (Shelter Island, NY: Manning, 2016).

- Jacqueline Kazil and Katherine Jarmul, *Data Wrangling with Python* (Cambridge: O'Reilly, 2016).
- Eric Matthes, Python Crash Course: A Hands-On, Project-Based Introduction to Programming (San Francisco: No Starch Press, 2016).

Richard Wentk, Teach Yourself Visually: Raspberry Pi (Indianapolis: John Wiley & Sons, 2014).

## Week 10 | Oct. 31 - Open Lab

#### NO REQUIRED READING

## Week 11 | Content Management Systems

#### REQUIRED READING

Library Technology Reports (May/June 2007): 5-53.

Review the documentation for the software that you would like to install before coming to class. (Possibilities: Wordpress, Omeka, Koha)

## Week 12 | Nov. 14 - Content Management Systems, continued

#### **REQUIRED READING**

- Juliet L. Hardesty, "Exhibiting Library Collections Online: Omeka in Context," *New Library World* 15 nos. 3/4 (2014): 75-86
- Kyle M. L. Jones and Polly Alida-Farrington, "Getting Started with Wordpress," and "Guest Pieces," *Library Technology Reports* (April 2011): 8-15, 34-60.

## NOVEMBER 21 – THANKSGIVING BREAK

Week 13 | Nov. 28 – Open Lab

NO REQUIRED READING

Week 14 | Dec. 5 – Open Lab

NO REQUIRED READING