

University of Kentucky
School of Information Science (SIS)

[ICT 202]: Technologies for Information Services

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- Contact Information:** *Office*—341 Lucille Little Library Bldg.
Phone—859.218.2294
Email—spencer.greenhalgh@uky.edu
Zoom—<https://uky.zoom.us/my/greenhalgh>
- Response Time:** During the week, I work to respond to all emails within 24 hours. I am slower to respond on weekends and may not get back to you until Monday. Please keep this in mind when preparing to submit assignments! I also ask that you check Canvas on a regular basis and that you respond to my messages within 48 hours.
- Office Hours:** I will hold office hours on Zoom (see above):
Tuesday, 12pm to 1pm,
Wednesday, 12pm to 1pm, or
by appointment
- Meeting Schedule:** This course takes place asynchronously on Canvas.
- Required Materials:** *CompTIA A+ Certification All-in-One Exam Guide, Tenth Edition*,
Mike Meyers
(ISBN: 978-1260454031)
- Raspberry Pi 400 Personal Computer Kit*
- Please make sure you are buying the full Raspberry Pi 400 kit, not just a Raspberry Pi 400! It is available from [PiShop.us](https://www.pishop.us), [Vilros](https://www.vilros.com), [Adafruit](https://www.adafruit.com), and [other retailers](#). You will also need access to a monitor or TV with an HDMI input.
- This Raspberry Pi 400 kit is the recommended purchase for ICT 202, and assignment instructions will always have this kit in mind. However, if you want more hands-on experience with computer hardware (and are confident in your ability to do some extra troubleshooting), you may want to consider a different Raspberry Pi product. Please see the last page of the syllabus for details.
- You should plan to keep your Raspberry Pi throughout your time in the ICT program. There will be opportunities in other ICT classes to use your Raspberry Pi to apply class activities.

COVID-19 (and More) Statement [inspired by [Dr. Andrew Heiss](#)]

A college class can be stressful enough during normal times, but it's likely worse during a global pandemic. You may know (or be) someone who has lost their job, tested positive for COVID-19, been hospitalized, or taken on new family responsibilities. Not only this, but there have been several events over the past 18 months that are reminders of inequalities and injustices people around the world are facing. This is a difficult time to be in college.

Despite these difficulties, I am fully committed to making sure that you learn everything you were hoping to learn from this class! Although formal deadlines are an important part of giving structure to a class, my late policy and willingness to make accommodations are generous even during normal times, and if this pandemic (or anything else) is turning your life upside down, I'm willing to be as flexible as you need me to be.

If you feel like you're behind, not understanding everything, or just plain stressed, **do not suffer in silence!** I'm usually quick to respond to email and more than happy to meet with you.

Basic Needs Statement [inspired by [Dr. Sara Goldrick-Rab](#)]

Any student who has difficulty affording or accessing food to eat every day or who lacks a safe and stable place to live and believes this may affect their performance in the course is urged to [contact the Dean of Students](#) and to explore the resources listed at the bottom of [this page](#). Furthermore, you can always notify me if you are comfortable in doing so.

Course Information

Course Description

This course is designed to teach the fundamental concepts of information technology in ways relevant to professional practice in informatics and the information professions. It explores applications of computers and networks to information problems. Included are features of hardware, types of software, commercial systems, and search engines.

Student Learning Outcomes

Although we will be covering lots of important information in this class, many of the specific details are less important than the general skills and abilities you acquire from this class. As you proceed through the class, you should be working toward these outcomes:

- Students will be able to evaluate and employ software and hardware.
- Students will be able to reflect on the history of information communication technologies, their importance in contemporary society, and their relationship with policy.
- Students will be able to retrieve, evaluate, and process information to complete software and hardware tasks.

Course Assessment

Your grade for this course will be based on 100 points:

- 90 points – 100.0 points = A
- 80 points – 89.9 points = B
- 70 points – 79.9 points = C
- 60 points – 69.9 points = D
- 0 points – 59.9 points = E

These 100 points come from the following assessment activities, which should all be completed honestly and individually on Canvas:

Practice Quizzes: 14 points (14 of 15 possible one-point practice quizzes)

One of the goals for this class is to prepare you for the CompTIA A+ certification exam. While taking the exam is not a part of the course, it may be a helpful qualification for you to pursue after ICT 202 (depending on the ICT career you have in mind). Our course readings and these practice quizzes are meant to help you learn the material that you will need to know for the certification exam.

Every module, you will have the opportunity to take a multiple-choice practice quiz made up of questions taken from your readings for that module. You will need to take fourteen of the fifteen quizzes over the course of the semester. In other words, you can skip one quiz.

For each quiz, your score will not be based on your answers, and you will not be timed. Instead, you will get one point just for completing the quiz. However, the course exams (and A+ certification exam) are based on similar material, so you should use these practice quizzes as opportunities to assess your understanding of the course material and study accordingly.

Reflection Activities: 14 points (7 of 15 possible two-point reflection activities)

Information communication technologies are not just technical—they are also closely connected to society, culture, diversity, equity, politics, and even pop culture. Whatever ICT career you have in mind, it's important (as a professional and a citizen) to understand the ways that technology connects with the world that we live in. These activities are meant to help you reflect on how the concepts we're studying this semester have importance beyond technology itself.

Every module, you will have the opportunity to complete a reflection activity that connects the material in your readings for that module to the real world (or to pop culture). You will need to complete seven of the fifteen reflection activities over the course of the semester. In other words, you should complete a reflection activity roughly every other module.

For each reflection you will watch, read, or listen to a video, article, or podcast and then respond to two prompts. Your score will be based on how completely and thoughtfully you respond to the two prompts (one point per prompt). Because these reflection prompts are as connected to social and cultural issues as they are to technology, it is critical that you be respectful and considerate in your responses.

Application Activities: 52 points (13 of 15 possible four-point application activities)

Knowing about information communication technologies is important, but being able to work with them is even more so. Many ICT careers require you to work directly with hardware and software, and even those that don't usually benefit from the ability to tinker with tech. These activities are meant to give you experience with applying the concepts we're studying to actual tech situations.

Every module, you will have the opportunity to complete an application activity that shows you how the material in your readings for that module applies to a Raspberry Pi computer. You will need to complete thirteen of the fifteen reflection activities over the course of the semester. In other words, you can skip two application activities.

For each activity, you will follow prompts to carry out an activity involving your Raspberry Pi and then submit a written, video, or other report to answer specific questions about your experience. Your score will be based on how well you follow the prompts and answer the questions.

Exams: 20 points (one 5-point midterm exam and one 15-point final exam)

As important as reflection and application are, both are dependent on your long-term recollection of knowledge about ICTs. The exams in this course are meant to promote retention of the material from our readings and quizzes.

In Module 8, you will take a 5-point midterm exam that draws from the quizzes and activities from Modules 1-8. In Module 16, you will take a 15-point final exam that draws from the quizzes and activities from Modules 1-15.

Unlike the practice quizzes, both exams will be timed, and your score will depend on your correct answers to the questions.

Late Work Policy

Officially, each assignment is due at 11:59pm on the date indicated in Canvas. Practically speaking, however, I will grade without penalty and provide feedback for any assessment that is turned in by the time I begin looking over that assessment. However, I will not grade or provide feedback on any work that is completed after this time unless you have made other arrangements with me. Naturally, because my schedule varies from week to week and because I try to provide feedback as quickly as possible, your best bet is to turn in your work by the official deadline or—if life has thrown you a curveball—to get in touch with me ahead of time to make other arrangements.

Summary Course Schedule

Module (Due Date)	Readings and Quizzes (must complete 14 out of 15 quizzes)	Reflection Activities (complete 7 out of 15)	Application Activities (complete 13 out of 15)
Module 1: Introduction (22 June)	- read course syllabus - read Ch.1: Safety and Professionalism - take Module 1 quiz	- reflect on your goals for the class (and introduce yourself!)	- describe your Raspberry Pi
Module 2: Computers (22 June)	- read Ch.2: The Visible Computer - read Ch.23: Portable Computing - take Module 2 quiz	- reflect on the history of computers	- describe Raspberry Pi OS
Module 3: Mobile Devices (29 June)	- read Ch.24: Understanding Mobile Devices - read Ch.25: Care and Feeding of Mobile Devices - take Module 3 quiz	- reflect on access to computers (of all sizes)	- enable remote mobile access for your Raspberry Pi
Module 4: Fundamental Hardware (29 June)	- read Ch.3: CPUs - read Ch.4: RAM - take Module 4 quiz	- reflect on technical constraints and culture	- test Raspberry Pi CPU performance
Module 5: Fundamental Connections (6 July)	- read Ch.5: Firmware - read Ch.6: Motherboards - take Module 5 quiz	- reflect on technology and power	- label your Raspberry Pi motherboard
Module 6: Mass Storage (6 July)	- read Ch.8: Mass Storage Technologies - read Ch.9: Implementing Mass Storage - take Module 6 quiz	- reflect on data storage in fiction	- resize the Raspberry Pi boot partition
Module 7: Other Hardware (13 July)	- read Ch.7: Power Supplies - read Ch.10: Essential Peripherals - take Module 7 quiz	- reflect on peripherals and accessibility	- list Raspberry Pi ports and associated peripherals
Module 8: Building Computers (13 July)	- read Ch.11: Building a PC - read Ch.26: Printers and Multifunction Devices - take Module 8 quiz	- reflect on environmentalism and building and repairing computers	- design an "everyday" Raspberry Pi setup

Module 9: Windows (20 July)	<ul style="list-style-type: none"> - read Ch.12: Windows Under the Hood - read Ch.13: Users, Groups, and Permissions - take Module 9 quiz 	- reflect on the importance of account security and permissions	- manage user accounts, groups, and permissions in Raspberry Pi OS
Module 10: Operating Systems (20 July)	<ul style="list-style-type: none"> - read Ch.14: Maintaining and Optimizing Operating Systems - read Ch.16: Troubleshooting Operating Systems - take Module 10 quiz 	- reflect on operating systems and control	- choose a Raspberry Pi-compatible operating system
Module 11: Command Lines and Displays (27 July)	<ul style="list-style-type: none"> - read Ch.15: Working with the Command-Line Interface - read Ch.17: Display Technologies - take Module 11 quiz 	- reflect on command line interfaces in fiction	- complete the "Pac-Man treasure hunt"
Module 12: Networking (27 July)	<ul style="list-style-type: none"> - read Ch.18: Essentials of Networking - read Ch.19: Local Area Networking - take Module 12 quiz 	- reflect on benefits and downsides of networks	- access the command line of your Raspberry Pi over a network
Module 13: The Internet (3 August)	<ul style="list-style-type: none"> - read Ch.20: Wireless Networking - read Ch.21: The Internet - take Module 13 quiz 	- reflect on the social importance of internet access	- create and host a web page on your Raspberry Pi
Module 14: Virtualization (3 August)	<ul style="list-style-type: none"> - read Ch. 22 - take Module 14 quiz 	- reflect on the social power of cloud computing companies	- virtualize an OS on your Raspberry Pi
Module 15: Working with Computers (10 August)	<ul style="list-style-type: none"> - read Ch.27: Securing Computers - read Ch.28: Operational Procedures - take Module 15 quiz 	- reflect on dangers and social engineering	- back up your Raspberry Pi
Module 16: Final Exam (10 August)	- take final exam		

Considerations for Online Learning

Because this course is held entirely online, it may be different than many of the courses you have taken in the past. Please consult this section for advice and resources that will help you successfully participate in an online class.

Technology Requirements

Minimum technical requirements for UK courses and suggested hardware, software, and internet connections are available at [ITS Student Hardware & Software Guidelines](#).

Technical Support

For account help, contact UK's [Information Technology Customer Services online](#), by [email](#), or by phone at 859-218-HELP (4357).

Online Learning Resources

The following resources may be helpful for you:

Zoom Teleconferencing Software

We will be using the Zoom software in this course for virtual office hours and other meetings.
<https://uky.zoom.us> [log in using your linkblue account]

Information Technology Services (ITS) Customer Services

Students having trouble logging into the various linkblue sites (Account Manager, myUK, Canvas, Office365, etc.) can contact the ITS Service Desk for help.

859-218-HELP or 859-218-4357

<https://www.uky.edu/its/customer-support-student-it-enablement/customer-services>

Canvas Assistance

Students needing technical assistance within their Canvas course can find help through Canvas support.

<https://community.canvaslms.com/docs/DOC-10554-4212710328>

UK Online

<http://www.uky.edu/ukonline/>

Distance Learning Library Services

Phone: (859) 218-1240

Fax: (859) 257-0505

E-mail: dllservice@lsv.uky.edu

Librarian: [Carla Cantagallo](#)

2-2, north wing, [William T. Young Library](#) 0456

Website: <http://libraries.uky.edu/dlls>

Course Policies

The following policies are in effect for this course:

Midterm Grades for Undergraduate Students (Senate Rules 6.1.3.A)

Mid-term grades will be posted in myUK by the deadline established in the [Academic Calendar](#).

Academic Accommodations

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. Visit the [DRC website](#), [email the DRC](#), contact them by phone at (859) 257-2754, or visit their office on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407.

Non-Discrimination Statement and Title IX Information

UK is committed to providing a safe learning, living, and working environment for all members of the University community. The University maintains a comprehensive program which protects all members from discrimination, harassment, and sexual misconduct. For complete information about UK's prohibition on discrimination and harassment on aspects such as race, color, ethnic origin, national origin, creed, religion, political belief, sex, and sexual orientation, please see [the electronic version of UK's Administrative Regulation 6:1 \("Policy on Discrimination and Harassment"\)](#). In accordance with Title IX of the Education Amendments of 1972, the University prohibits discrimination and harassment on the basis of sex in academics, employment, and all of its programs and activities. Sexual misconduct is a form of sexual harassment in which one act is severe enough to create a hostile environment based on sex and is prohibited between members of the University community and shall not be tolerated. For more details, please see [the electronic version of Administrative Regulations 6:2 \("Policy and Procedures for Addressing and Resolving Allegations of Sexual Assault, Stalking, Dating Violence, Domestic Violence, and Sexual Exploitation"\)](#). Complaints regarding violations of University policies on discrimination, harassment, and sexual misconduct are handled by the Office of Institutional Equity and Equal Opportunity (IEEO), which is located in 13 Main Building and can be reached by phone at (859) 257-8927. You can also visit [the IEEO's website](#).

Faculty members are obligated to forward any report made by a student related to IEEO matters to the Office of Institutional Equity and Equal Opportunity. Students can *confidentially* report alleged incidences through the Violence Intervention and Prevention Center, Counseling Center, or University Health Services.

Bias Incident Support Services

Bias Incident Support Services (BISS) provides confidential support and advocacy for any student, staff, or faculty member impacted by bias, hatred, and/or an act of identity-based violence. BISS staff aid impacted parties in accessing campus and community resources, including the Bias Incident Response Team, the University's official reporting system for acts

that negatively impact a sense of belonging. Campus and community consultation and educational opportunities centered on inclusion, diversity, equity and belonging is a resource also provided by BISS. For more detailed information please visit the [BISS website](#) or contact them [via email](#).

Martin Luther King Center

The Martin Luther King Center (MLKC) supports an inclusive learning environment where diversity and individual differences are understood, respected, and appreciated as a source of strength. The MLKC's year-round programs and activities that focus on the importance of cultural awareness and cross-cultural understanding support its three primary goals: 1) sponsoring cultural and educational programming; 2) offering opportunities for student support and development; and 3) through programmatic linkages with a wide variety of civic and community agencies, promoting community outreach, engagement, and collaboration. Students can reach the MLKC via phone at 859-257-4130, by visiting them in Gatton Student Center Suite A230, [via email](#), and by visiting the [MLKC website](#).

Office of LGBTQ* Resources

UK is committed to supporting students and upholding the University's efforts to promote inclusion among our community. UK faculty and staff employees support inclusion and diversity throughout the University, including the ways in which faculty structure classroom conversations and manage those dynamics. To assist in these efforts, students are welcome to provide the names and pronouns they prefer. One easy way to do this is by using the pronoun feature of UK's Name Change Form. (More information about the form can be found on the Office of LGBTQ*'s [website](#).) Otherwise, students can provide this information to faculty members directly.

Discrimination based on sexual orientation, gender expression, and gender identity is prohibited at UK. If you have questions about support, advocacy, and community-building services related to sexual orientation, gender expression, or gender identity, students are encouraged to visit the website of the [Office of LGBTQ* Resources](#).

Veteran's Resource Center

Being both a member of the military community and a student can bring some complexities. If you are a member of the military or a military veteran or dependent, please let me know when these challenges arise.

Drill schedules, calls to active duty, mandatory training exercises, issues with GI Bill disbursement, etc. can complicate your academic life. Please let me know if you experience complications and I will do my best to work with you.

If you are a military student serving in the National Guard or Reserve it is in your best interest to let all of your professors know that immediately. You might also consider sharing a copy of your training schedule as well as any orders activating you. The Veterans Resource Center (VRC) can provide a letter for your professors validating your absence but be aware that there is no current UK policy protecting military students who miss class due to short term activations such as long

weekend drills, annual training or emergency activations. See the instructor or the VRC for details.

The VRC is a great resource for members of our military family. If you have questions regarding your VA benefits or other related issues, the VRC has a full complement of staff to assist you. The VRC also provides study and lounge space, as well as free printing. Please visit the VRC [website](#), [email](#) the DRC, visit them in the basement of Erikson Hall, or call the director, Tony Dotson, at 859-257-1148.

Violence Intervention and Prevention (VIP) Center

If you experience an incident of sex- or gender-based discrimination or interpersonal violence, we encourage you to report it. While you may talk to a faculty member or TA/RA/GA, understand that as a “Responsible Employee” of the University these individuals **MUST** report any acts of violence (including verbal bullying and sexual harassment) to the University’s Title IX Coordinator in the IEEEO Office. If you would like to speak with someone who may be able to afford you confidentiality, you can visit the Violence Intervention and Prevention (VIP) Center’s [website](#) (offices located in Frazee Hall, lower level; email them; or call 859-257-3574), the Counseling Center’s (CC) [website](#) (106 Frazee Hall; 859-257-8701), and the University Health Services (UHS) [website](#); the VIP Center, CC, and UHS are confidential resources on campus. **The VIP Center accepts walk-in appointments.**

Academic Integrity

Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the [Code of Student Rights and Responsibilities](#). Complete information can be found on the [Academic Ombud](#) page. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Senate Rule 6.3.1 (see current [Senate Rules](#)) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Academic Integrity—Prohibition on Cheating (SR 6.3.2)

Cheating is defined by its general usage. It includes, but is not limited to, the wrongfully giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade. The fact that a student could not have benefited from an action is not by itself proof that the action does not constitute cheating. Any question of definition shall be referred to the University Appeals Board.

Academic Integrity—Prohibition on Falsification/Misuse of Academic Records (SR 6.3.3)

Maintaining the integrity, accuracy, and appropriate privacy of student academic records is an essential administrative function of the University and a basic protection of all students. Accordingly, the actual or attempted falsification, theft, misrepresentation or other alteration or misuse of any official academic record of the University, specifically including knowingly having unauthorized access to such records or the unauthorized disclosure of information contained in such records, is a serious academic offense. As used in this context, "academic record" includes all paper and electronic versions of the partial or complete permanent academic record, all official and unofficial academic transcripts, application documents and admission credentials, and all academic record transaction documents. The minimum sanction for falsification, including the omission of information, or attempted falsification or other misuse of academic records as described in this section is suspension for one semester.

Faculty members are obligated to forward any report made by a student related to IEEEO matters to the Office of Institutional Equity and Equal Opportunity. Students can *confidentially* report alleged incidences through the Violence Intervention and Prevention Center, Counseling Center, or University Health Services.

Raspberry Pi Options for ICT 202

As described on the first page of the syllabus, the Raspberry Pi 400 Personal Computer Kit is the recommended purchase for this class, and instructions for application activities will assume that you are using this kit. However, ICT 202 activities can be completed with most Raspberry Pi models, which means that there is some flexibility here—so long as you're willing to take on the responsibility of doing any extra troubleshooting.

For example, the main reason that I ask you to buy the Raspberry Pi 400 kit is because it comes with a mouse, a power supply, and an SD card with the operating system already loaded—if you buy the kit, you can be confident that you have all the hardware you need (except the monitor with an HDMI port). It's possible, though, that you already have a USB/Bluetooth mouse, USB-C power supply, and SD card (and reader) handy; if this is the case, you can probably get away with just buying a Raspberry Pi 400 and using your own peripherals.

Similarly, some of you are going into ICT careers that will have you working with hardware, and you may want some more experience exploring and handling the individual components of a computer. The motherboard and key hardware of the Raspberry Pi 400 are built into the keyboard that comes with the kit, which is convenient but makes it harder to see how the different components of the Pi fit together. For a little extra money, you can instead buy a Raspberry Pi 4 Desktop Kit. The Raspberry Pi 4 is not built into a keyboard and is more readily accessible—if you want the experience of being able to look at and identify your computer's processor, memory, and other hardware as we discuss them in this class, this might be a better approach for you. Also, as above, if you have the "extra" hardware already on hand (in this case, including a compatible keyboard), you may be able to just buy a Raspberry Pi 4 and provide the rest on your own.

Using older Raspberry Pi models is a bit trickier, and I can't guarantee that they'll be compatible with ICT 202 activities. However, if you already have an older Raspberry Pi and are confident in your ability to tinker with it and find workarounds, I won't stop you from using your existing Pi in class.

While each of these alternatives will *probably* work, please keep in mind that if you choose to use anything but the Raspberry Pi 400 Personal Computer Kit, it will be your responsibility to do any extra troubleshooting that comes along with it!