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# Meta-Data

## Lesson Goals

* Students will understand the work involved in CS6750.
* Students will understand the topics that will be covered in CS6750, and in what order.
* Students will understand the assignments they will complete at a high level (general enough to allow semester-to-semester changes).
* Students will understand the learning strategies that we will use throughout the course.

## Lesson Outcomes

* Students will be able to describe the work they will perform as part of this class.
* Students will be able to describe the overall structure of the class and how the pieces work together.

## Assessments

* Students will complete exercises checking their understanding of the course content and structure.

## Lesson Plan

* Students will initially be introduced to the idea of learning goals, outcomes, strategies, and assessments.
* Students will then be presented the learning goals of CS6750.
* Students will then be presented the overall learning outcome of CS6750, which will then be broken up into smaller chunks for explanation.
* Students will then be presented the strategies, separating those used in the video material and those used in the course assessments.
* Finally, students will be given the course structure, including the three units: principles, methods, and applications.

# Script

## 1.2.1 Introduction to CS6750

### 1.2.1.1 Headshot Studio

* [C] David talking
* [A] Scenes of the lesson playing
* Now that you understand a little bit about what human-computer interaction is, let’s talk about what this class is going to be like.
* [B] Topic; Course material, structure, and expectations
* In this lesson, I’m going to take you through a **high-level overview** of this class: what material we’ll cover, how it fits together, and what you should expect to know by the end of the course.
* [B] Topic; Course assessments
* I’ll also talk a little bit about the **assessments** we’ll use in the class, but be aware: these assessments are only applicable to students taking this class through Georgia Tech.
* [B] David; Welcome! We’re glad to have you!
* If you’re just watching this course on your own or using it to complement other courses **you’re taking** those assessments won’t apply to you, but you’ll get to hear a little bit about what students in the course will do.
* If you are a student in the course, you should know that assessments do tend to change a bit semester to semester. I’m going to try to stay general enough to capture future changes, but make sure to pay attention to the specific materials you’re provided for your semester.

## 1.2.2 Learning Goals

### 1.2.2.1 Headshot Studio

* [C] David talking
* [A] Clips of lessons
* [B] Definition; Learning goal: what we want you to understand.
* In education, a **learning goal** is something we want you to understand at the end of the course.
* It’s the knowledge contained within your head that you didn’t might not have had when we got started.
* In this class, we have three major learning goals.
* [V] Clips from principles lessons
* [B] Goal: to understand the common principles in HCI.
* First, we want you to **understand some of** the common principles in human-computer interaction.
* These are tried-and-true rules on how to design good interactions between humans and computers.
* [B] Goal: to understand the design life cycle.
* [V] Clips of methods lessons
* Second, we want you to **understand the** design life cycle.
* This is how interfaces go from conception to prototypes to evaluation.
* We especially want you to understand the role of iteration in this.
* [B] Goal: to understand current applications of HCI.
* [V] Clips of applications lessons
* Third, we want you to **understand the expanse** of the human-computer interaction field and the current applications available for HCI.
* [B] Amanda?; To showerheads and thermostats!
* HCI is everywhere. From domains like healthcare, to technologies like virtual reality, to emerging techniques like **sonification,** HCI has a wide range of possibilities.
* We want you to understand the broad range of application areas for HCI in the modern world.

## 1.2.3 Learning Outcomes: To Design

### 1.2.3.1 Headshot Studio

* [C] David talking
* [B] Definition; Learning outcome: what we want you to be able to do.
* While a learning goal is something we want you to know at the end of the course, a learning outcome is **something we want** you to be able to do.
* This course has one learning outcome, but there are some nuances to it.
* [A] Learning outcome text: “To design effective interactions between humans and computers”.
* The goal of this course is to be able to design effective interactions between humans and computers.
* [A] Highlight ‘design’.
* The first part of our learning goal is: design.
* What is design?
* Well, for us, design is going to take two forms.
* [B] Definition; Design: applying known principles to a new problem
* First, design is an **activity where you** apply known principles to a new problem.
* For example, we’ll talk a lot about the importance of getting users the right kind of feedback at the right time.
* That’s applying the principle of feedback to some new design problem we encounter.
* But design has a second form.
* [B] Definition; Design: an iterative process of needfinding, prototyping, evaluating, and revising.
* Design is also a **process where you** gather information, use it to develop design alternatives, evaluate them with users, and revise them accordingly.
* When designing an interface for some task, I’d ask potential users how they perform the task, I’d develop multiple different ideas for how we could help them, I’d give those to users to evaluate, and I’d use their experiences to try to improve the interface over time.
* So, let’s take an example.
* Imagine I was designing a new thermostat.
* On the one hand, designing a new thermostat means applying known HCI principles like feedback and error tolerance to some new design.
* On the other hand, designing a new thermostat means creating different ideas, giving them to users, getting their feedback, and revising the design.
* Both these sides of design are very important.
* You don’t want to ignore decades of experience when designing new interfaces, but simply applying known principles to a new problem doesn’t guarantee you have a good design.
* Designing is about both these things, and in fact, these two things are the vast majority portion of the material we’ll cover:...
* [B] Unit 2: HCI Principles
* ...we’ll cover the **principles** uncovered by years of human factors engineering and human computer interaction research, and…
* [B] Unit 3: HCI Methods
* ...we’ll cover the **methods** used in HCI for creating gathering user requirements, developing designs, and evaluating new interfaces.

## 1.2.4 Learning Outcomes: Effective Interactions

### 1.2.4.1 Headshot Studio

* [C] David talking
* [A] Learning outcome with ‘effective interactions’ highlighted somehow.
* The first part of this learning outcome, to design, needed some definition, but the second part seems pretty straightforward… right?
* Not exactly.
* Effectiveness is defined in terms of our goal.
* [B] Goal: Usability
* The most obvious goal here might be **usability**.
* And for a lot of HCI, that’s what we’re interested in.
* If I’m designing a thermostat, I want the user to be able to create the outcome they want as easily as possible.
* [B] Goal: Research
* But maybe usability isn’t my goal, maybe it’s **research**.
* Maybe I’m interested in investigating what makes people think a thermostat is working correctly.
* In that case, I might deliberately create some thermostats that are harder to read to see how that changes people’s perceptions the system.
* [B] Goal: Change
* Or it could be that my goal isn’t to make a certain activity easier, but rather to ***change*** that activity.
* Maybe I’m interested in reducing a home’s carbon footprint. In that case, my goal is to get people to use less electricity.
* I might design the interface of this thermostat specifically to encourage people to use less.
* Maybe I would show them a comparison to their neighbors’ usage, or allow them to set energy usage goals, or make the thermostat physically tougher to turn up.
* So ‘effectiveness’ is very much determined by the goal that I have in mind.
* We’ll generally assume that our goal is usability unless we state otherwise, but we’ll absolutely talk about some of the other goals as well.

## 1.2.5 Learning Outcomes: Between Humans and Computers

### 1.2.5.1 Headshot Studio

* [C] David talking
* [A] Learning outcome with ‘between humans and computers’ highlighted.
* The final part of our desired learning outcome is ‘between humans and computers’.
* We want to design effective learning outcomes *between humans and computers*.
* But what is important to note here is where we’re placing the emphasis.
* Note that we didn’t say ‘designing effective interfaces’ because that puts the entire focus on the interface.
* We’re deeply interested in the human’s role in this interaction.
* [B] Important Quote; “We design interactions, not interfaces.”
* So rather than designing interfaces, designing programs, designing tools, we’re designing **interactions**. We’re designing tasks. We’re designing how people accomplish their goals, not just the interface that they use to accomplish their goals.
* Take our thermostat for example. When we start this process, our goal shouldn’t be to design a thermostat.
* Our goal should be to design the way in which a person controls the temperature in their home.
* That subtle shift in emphasis is **powerful**.
* If you set out to design a better thermostat, you might design a wall-mounted device that’s easier to read or easier to use.
* [A] Nest thermostat image comes up
* But if you set out to design a better way for people to control the temperature in their home, you might end up with Nest, a device that learns from the user and starts to control the temperature automatically.

## 1.2.6 Learning Strategies: Video Material

### 1.2.6.1 Headshot Studio

* [C] David talking
* [B] Definition; Learning strategies: our approach to helping you achieve the learning goals and outcomes.
* Learning strategies are **how we plan** to actually impart that knowledge to you.
* They are how we attempt to help you achieve the learning goals and outcomes.
* Within these videos, we’ll use a number of strategies to try to help you understand the principles and methodologies of HCI.
* [B] Learning by Example
* We’ll use **Learning by Example**: every lesson, and in fact this course as a whole, will be organized around a collection of running examples that will come up over and over again.
* [B] Learning by Doing
* We’ll use **Learning by Doing**: throughout the course, we’ll ask you to engage in designing interactions to solve different problems in different contexts. These aren’t required since there’s no way we can verify if you’ve done them, but we hope you’ll take a few minutes and think about these.
* [B] Learning by Reflection
* We’ll use **Learning by Reflection**: we’ll ask you to reflect on times when you encountered these things in your everyday life.
* These strategies are useful because they connect to your own experiences. However, there’s a danger there as well.
* [B] You are not your user!
* One of the recurrent points in studying HCI is that when you are designing interactions, **you are not your own user**.
* Focusing too much on your own experiences can give you a false sense of expertise.
* So, we’ll also use some strategies that intentionally try to take you out of that comfort zone and confront how little you might understand tasks with which you thought you were familiar.

## 1.2.7 Learning Strategies: Georgia Tech

### 1.2.7.1 Headshot Studio

* [C] David talking
* Within the full CS6750 course at Georgia Tech, there are a number of other strategies in which you’ll engage as well.
* First, we’re passionate about leveraging the student community in this class to improve the experience for everyone.
* Taking this class with you are people with experience in a variety of industries, many of whom have significant experience in HCI.
* [B] Peer Learning
* [B] Collaborative Learning
* [B] Learning by Teaching
* [B] Communities of Practice
* So, some strategies we’ll use are: **Peer Learning**, **Collaborative Learning**, **Learning by Teaching**, and **Communities of Practice**. You’ll learn both from each other and with each other. You’ll play the role of student, teacher, and partner, and learn from the different perspectives.
* [B] Project-based learning
* In addition, this entire course is built around **project-based learning**.
* Starting early in the semester, you’ll form a team and start looking at a problem we’ve selected or potentially one in which you’re interested.
* This project will then become the domain through which you explore the principles and methods of human-computer interaction.
* Who knows, by the end of the semester you might even generate something with the potential to go forward as a real-world product or research project.

## 1.2.8 Learning Assessments

### 1.2.8.1 Headshot Studio

* [C] David talking
* Learning goals are what we want you to understand.
* Learning outcomes are what we want you to be able to do.
* [B] Learning assessments: how we evaluate whether you’ve achieved the learning goals and outcomes.
* Learning assessments, then, are **how we evaluate** whether you can do what we want you to be able to do and understand what we want you to understand.
* The learning outcome of this class is to be able to design effective interactions between humans and computers.
* Thus, the primary assessments in this class are to… design effective interactions between humans and computers.
* You’ll start with some relatively small-scale tasks, recommending improvements to existing interfaces or undertaking small design challenges.
* As the semester goes on, though, you’ll scope up toward a bigger challenge. You’ll initially investigate that challenge individually, then merge into teams to prototype and evaluate a full solution to the challenge you choose.
* [B] “CS6750 is a journey, not a destination.” -Ralph Waldo Emerson (kind of)
* At the end, you’ll be evaluated not just on the final design you generate, but on the **process** by which it was generated.

## 1.2.9 Course Structure

### 1.2.9.1 Headshot Studio

* [C] David talking
* We’ll close by talking about the overall structure of the content you’ll be consuming.
* The course’s lessons are designed to be as independent as possible, so you should be able to skip around if you want, but there’s a certain method to our planned presentation order.
* [A] Design <-> Research diagram from 1.1.11
* We discussed earlier the model of HCI, how design informs research and research informs design.
* [A] Highlight ‘Design’
* We’ll start by discussing some of the course design principles of HCI.
* [A] De-highlight ‘design’, highlight ‘research’
* Then we’ll discuss the methodologies for uncovering new user information, the iterative design cycle.
* We’ll close by giving you the opportunity to peek at what is going on in the HCI community at large.

## 1.2.10 5 Tips: Doing Well in CS6750

### 1.2.10.1 Headshot Studio

* [C] David talking
* Here are five tips for doing well in CS6750.
* [B] Tip 1\.: Look over the assignments early
* **1. Look over the assignments early.** Some of our assignments, you can sit down and do an hour, but others require some advanced coordination to talk to users, develop prototypes, or test them with real people. So, go ahead and read all the assignment descriptions.
* [B] Tip 2. Start the assignments early.
* **2. Start the assignments early.** That’s not just typical teacher talk saying you can’t get these assignments done at the last minute -- for many of them you can. You’re using interfaces every day in your real life, though -- by starting early, you’ll likely get inspiration from your day to day life, and the assignments will become significantly easier than sitting down and trying to come up with something on the spot.
* [B] Tip 3. Participate.
* **3. Participate.** Interact with your classmates. Post on the forums and read others’ posts. The knowledge and experience you’ll gain there is just as valuable as anything you’ll get from just watching lecture videos.
* [B] Tip 4. Select an application area to explore.
* 4. Select an application area to explore. Next lesson, you’ll hear about several of the interesting areas of HCI research and development going on right now. Actually developing in many of these areas is outside the scope of this class, but I’d encourage you to pick an area in which you’re interested and mentally revisit it throughout the course.
* [B] Tip 5. Leave behind what you know.
* **5. Leave behind what you know.** Or at least, try. HCI is a huge area, and yet many people believe that because they use computers a lot, they’d be good at designing user experiences as well. But HCI above all else is about gaining a grounded understanding of the user’s needs, not assuming we already know them. So, while it’s great to apply the course’s principles to your everyday life, be cautious about designing too narrowly based on your own experiences.

## 1.2.11 Conclusion

### 1.2.11.1 Headshot Studio

* [C] David talking
* [A] Clips from the lesson playing
* [B] Course expectations
* In this lesson, I’ve tried to give you some **expectations** of what this course will be like.
* [B] Goals, outcomes, strategies, and assessments
* We’ve gone over the course’s **goals**, outcomes, learning strategies, and assessments.
* [B] “To design effective interactions between humans and computers”.
* We’ve covered the course’s learning outcome in great detail: “To design effective interactions between humans and computers”.
* I’ve focused mostly on the video material because the assignments, projects, and exams are separate from these videos and are likely to change significantly semester to semester.
* [B] Unit 2: Principles; Unit 3: Methods; Unit 4: Applications
* The video material here covers three general areas: **principles**, methods, and applications.
* To really get into the applications, it’s useful to understand the principles and methods we’ll be using -- but at the same time, it’s useful to keep the applications in mind while learning about the principles and methods.
* So, we’re going to briefly preview some of the application areas for you to keep in mind during the rest of our conversations.
* Then, after we cover principles and methods, we’ll revisit the application areas and leave you room to explore whatever you find most interesting.