* Explain what usability engineering is.
* Explain the difference between good and poor interaction design.
  + Poor interaction design causes frustration and doesn't fails heuristic evaluations. Also may have flaws like gulf of execution or evaluations.
* Explain the relationship between the user experience and usability.
  + Can not design a user experience, if a user has a good user experience through the sensual, emotional, compositional, and spatio-temporal threads then the design is usable...
* Describe what and who is involved in the process of interaction design.
  + Establishing requirements, designing alternatives, prototyping, and evaluating are all involved in interaction design. Both engineers and the users should be continuously involved. PRICPE
* Evaluate an interactive product and explain what is good and bad about it in terms of the goals and core principles of interaction design.
  + Usability Goals: eesulm
* Explain how to conceptualize interaction.
  + Defining problems and claims (making explicit assumptions) leads to a good understanding of the problem space and can be used to create a blueprint for further design
* Describe what a conceptual model is and how to begin to formulate one.
  + Provides a working strategy and framework of general concepts and their relationships/ metaphors and analogies /what interaction types the user will perform/ instructing, conversing, manipulating, and exploring the relationship between those interaction types/The mapping of the UE that the concept is meant to support
* Outline the core interaction types for informing the development of a conceptual model.
  + instructing - user gives the system instructions - click something /conversing - siri manipulating - dragging files, wii. continuous rep, rapid reversible inc actions, physical actions/buttons /exploring - virtual reality data exploration
* Explain some advantages of involving users in development.
  + Users' tasks and goals are the driving force behind the development /User's behavior and context of use are studied and the system is designed to support them /Users' characteristics are designed for
* Explain the main principles of a user-centered approach.
  + Early focus on users and tasks / Identifying users, studying them performing tasks, and involving them in the design process
* Present a simple lifecycle model of interaction design.
* Consider how interaction design activities can be integrated into the wider product development cycle.
  + /How to integrate UI design w/software engineering. /Agile principles
* Explain what cognition is and why it is important for interaction design.
  + Experiential and reflective cognition / Studying cognition helps us determine what humans and good and bad at and this helps to inform design.
* Discuss what attention is and its effects on our ability to multitask.
  + Attention lets us focus on what is relevant to what we are doing /This focus depends on if we have clear goals and/ if the information we need is easily visible in our environment /Not very good at multitasking (loud distracting is distracting)
* Describe how memory can be enhanced through technology aids.
  + Chunking, offloading, consistency
* Explain what mental models are.
* Try to elicit a mental models and be able to understand what it means.
  + More transparency. Bridge the gulf of exec and eval.
* Provide an overview of the many different kinds of interfaces.
  + Command Based, GUI, Multimedia, VR, Info visualization/dashboards, Web, Consumer elect and app, mobile, speech, pen, touch, air based gesture, haptic-vibration, multimodal, shareable, tangible, augmented reality, wearable, robots, brain-comp interactions
* Highlight the main design and research issues for each of the interfaces.
* Describe prototyping and different types of prototyping activities.
  + Prototyping is a manifestation of a design that allows stakeholders to interact with it and explore its suitability- limiting usually to one aspect. /Hi-Fi(models, expensive), Lo-fi(sketches, storyboards)
* Produce simple prototypes from the models developed during the requirements activity.
* Produce a conceptual model for a product and justify your choices.
  + Conceptual model is an outline of what people can do with a product and what concepts are needed to understand how to interact with it
* Explain the use of scenarios and prototyping in design.
  + Scenarios are information stories about user tasks and activities /Used by stakeholders and designers so that design teams are on the same page. (scripts for users)(the family looks for vacation, sees something, ad comes up, buys) - One creates prototypes/storyboards from scenarios
* Describe a range of different types of evaluation methods.
  + GOMS/KLM, Heuristic Eval, cognitive walkthrough
* Show how different evaluation methods are used for different purposes at different stages of the design process and in different contexts of use.
* Discuss some of the practical challenges that evaluators have to consider when doing evaluation.
* Describe the attention investment model
  + The model considers the costs, benefits, and risk users weigh in deciding how to complete a task.
* Use attention investment model to understand user problem-solving behaviors on computers.
* Use attention investment model as a design-time mechanism to make informed design choices.
* Describe the surprise-explain-reward strategy
  + The goal of SER is:
    - Surprise – shows them the presence of information gap (to arouse curiosity).
    - Explain – users seek explanation to close the info gap
      * Self directed learning is key (don’t interrupt)
      * Suggests the actions we want them to do
    - Reward – make clear the benefits of taking actions early

* Use surprise-explain-reward strategy to entice users to behave in a certain way.
* Describe the Information Foraging Theory
  + People behave when searching for info in the same way as animals did
  + Foraging - browsing
  + Predators - people
  + Prey – information specific to why the are on web
  + Scent – in the persons head, predator estimated of relatedness
  + Cues – clues on where to go next in information world
* Use Information Foraging Theory in your designs.
* Explain the gender differences in using programming environments.
* Apply your knowledge of gender differences in your UX designs.