

Spring 2024 HCII Undergraduate Program Information Session



Spring 2024 HCII Additional Major & Minor Admissions

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Agenda

- Overview & Introductions
- HCI Additional Major
- HCI Minor
- Admissions process
- Q&A



Most of Computer Science is about computation and the computer itself.

HCI (Human Computer Interaction) is about people and computers:

- Invent novel interactive digital systems and services that benefit humans - individuals, groups, or whole institutions
- Understand how interactive digital systems and services influence people

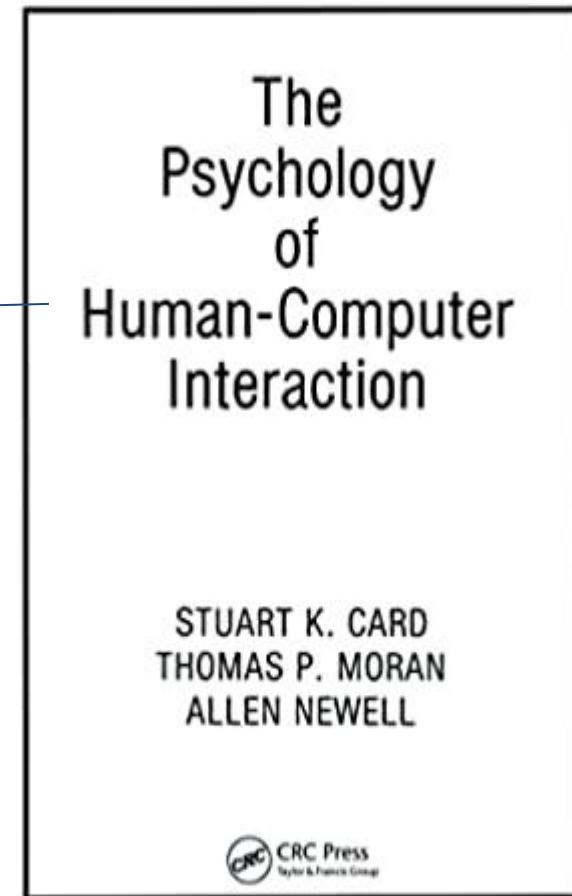


HCI tied closely with CMU

- Book that coined the term
- Three key founders of HCI (Newell-Simon)

Human-Computer Interaction Institute (HCII)

- Founded in mid 1990s
- Designers + Behavioral Science + CS
- First Master's, First PhD program in HCI
- Double major, minor, primary major in HCI
- (Immodestly) We're best in the world in HCI



The Philosophy of the HCI Additional Major and Minor

Take excellent students with depth in one discipline relevant to HCI and give the educational opportunity to learn a set of core skills in HCI.

- Help the students become effective members of interdisciplinary teams in industry
- Prepare students for leadership in HCI-related industries



What students like about the HCI Additional major and HCI minor

- Interdisciplinary
- Project focused
- Flexible

“Working with people from other disciplines “

“The interdisciplinary nature. I learned a lot from having courses outside my major and from working with people that have different focii”

“Courses were project oriented”

“Applying the skills I learned in classes to research projects”

“Without this major, I would have never discovered my enjoyment for creatively solving problems with constraints and business needs.”

“The professors. I was lucky because all of the core classes ... were taught by professors who were well-respected in the field and clearly knew their stuff”



Why study HCI?

- Web services and mobile apps are the hottest start-ups in the world and HCI is in the middle of that
- HCI is *the* central topic in computing – the best way to build up some computer skills and credibility
- HCI is a good path towards being a project manager, a product manager, or entrepreneurs
- Agile development to understand user needs helps to create innovative products – in HCI *and* in business

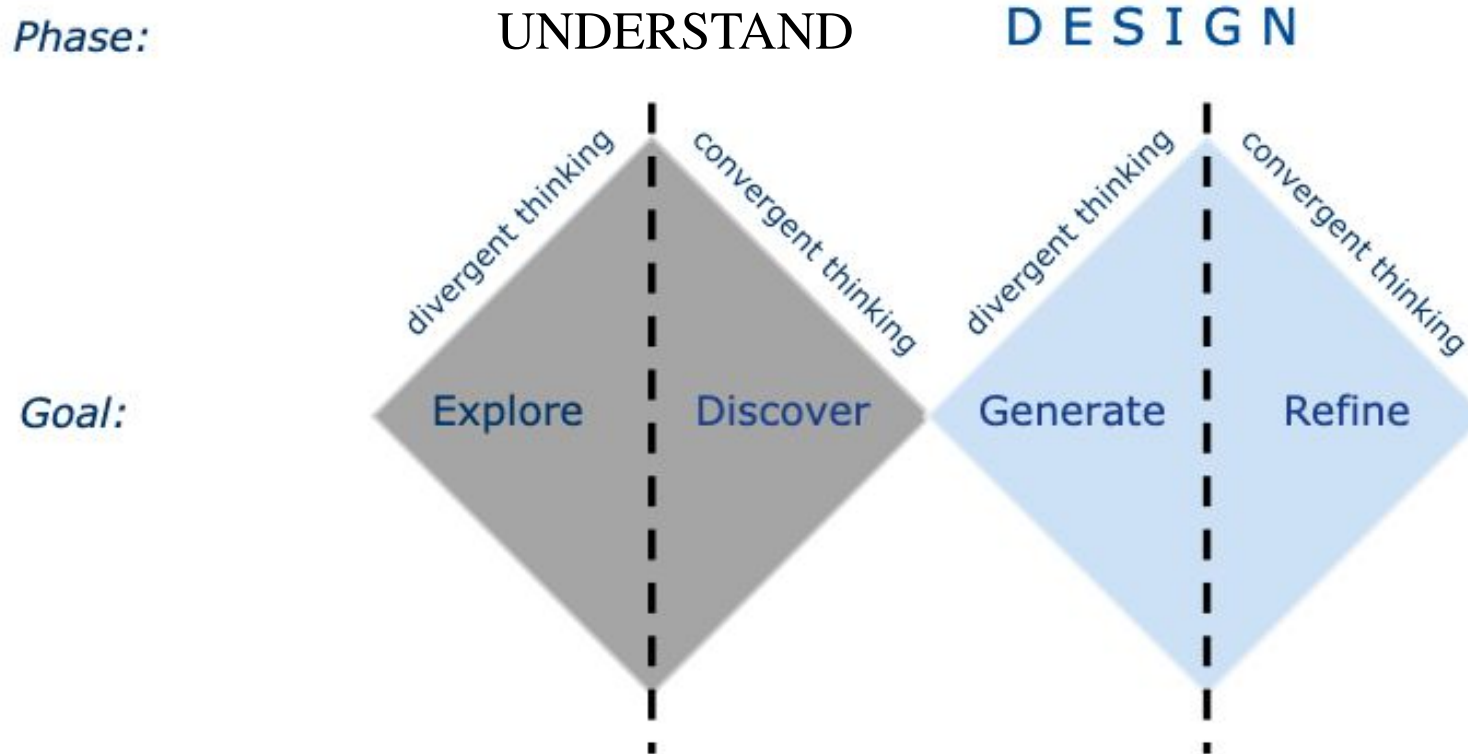


Hiring Companies in Recent Years

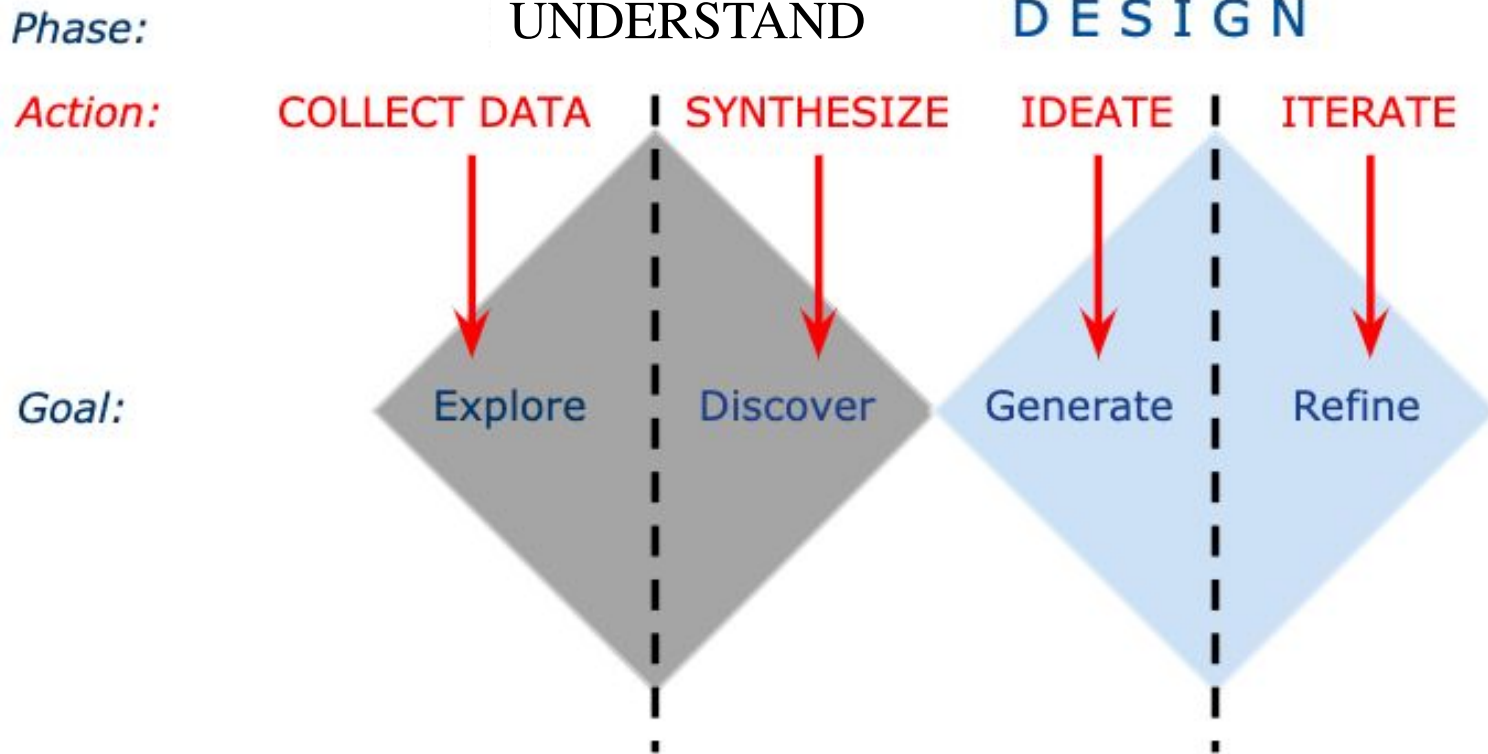
- Amazon
- Apple
- Applied Predictive
- Capital One
- Carnegie Mellon
- Deloitte
- eBay
- Etsy
- Facebook/Meta
- Firstborn
- Google
- Hudson River Trading
- Huge
- Idean
- McKinsey & Company
- Microsoft
- Pinterest
- Pricewaterhouse
Coopers
- Procore Technologies
- SapientNitro
- Venmo
- WillowTree
- Yext
- Zazzle



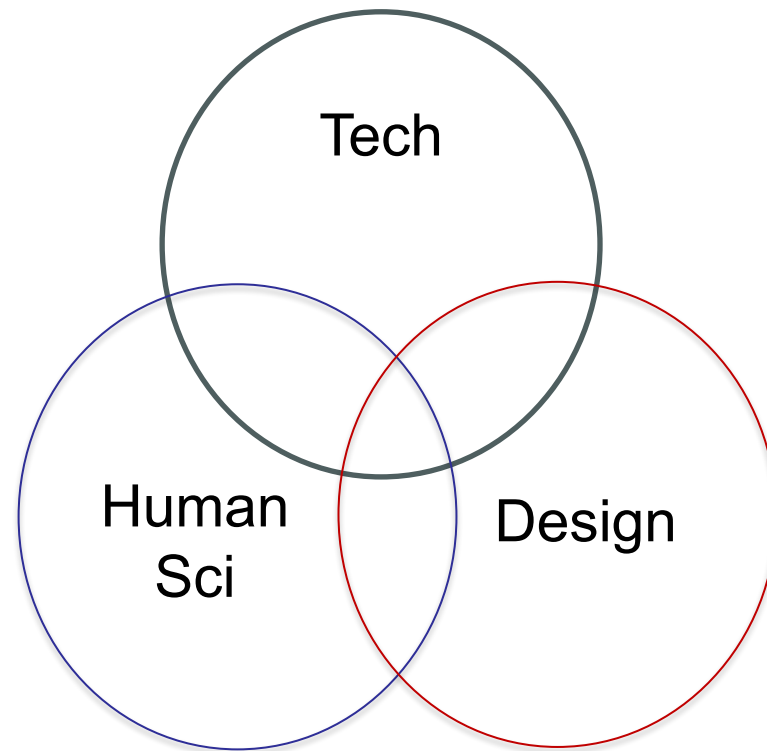
The Human-Centered Design Approach



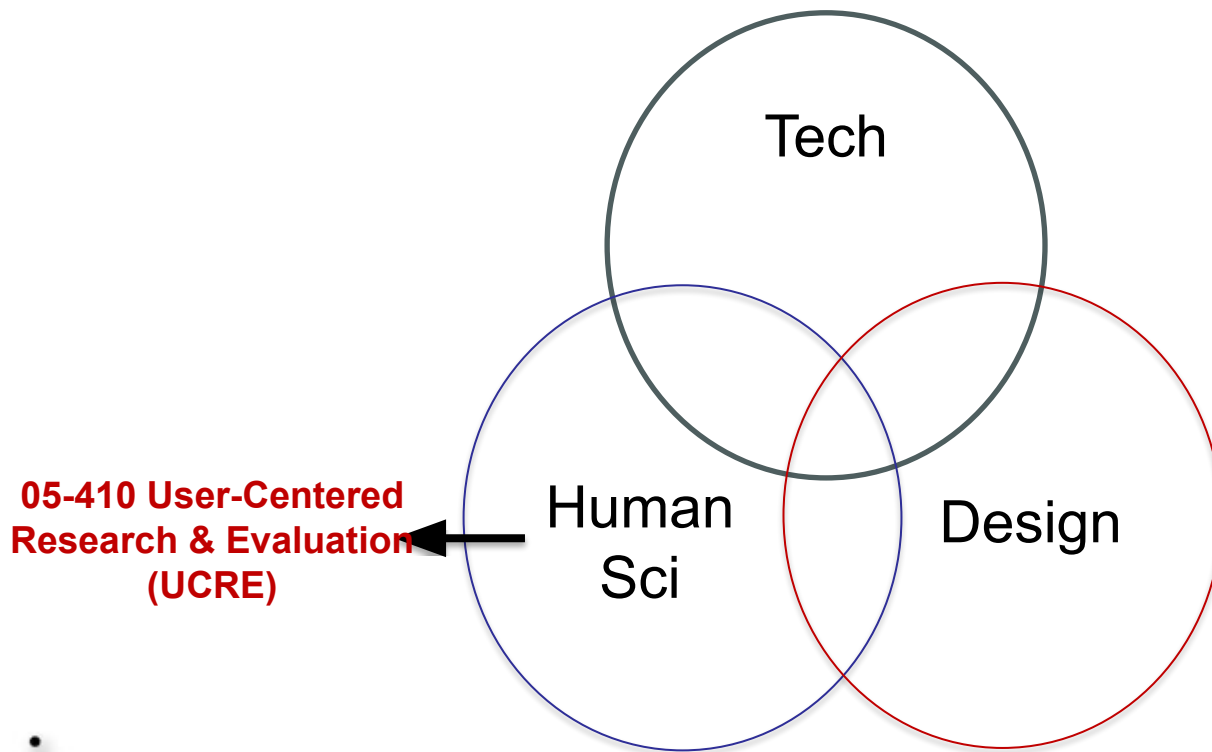
The Human-Centered Design Approach



3 pillars of HCI and example core classes



3 pillars of HCI and example core classes



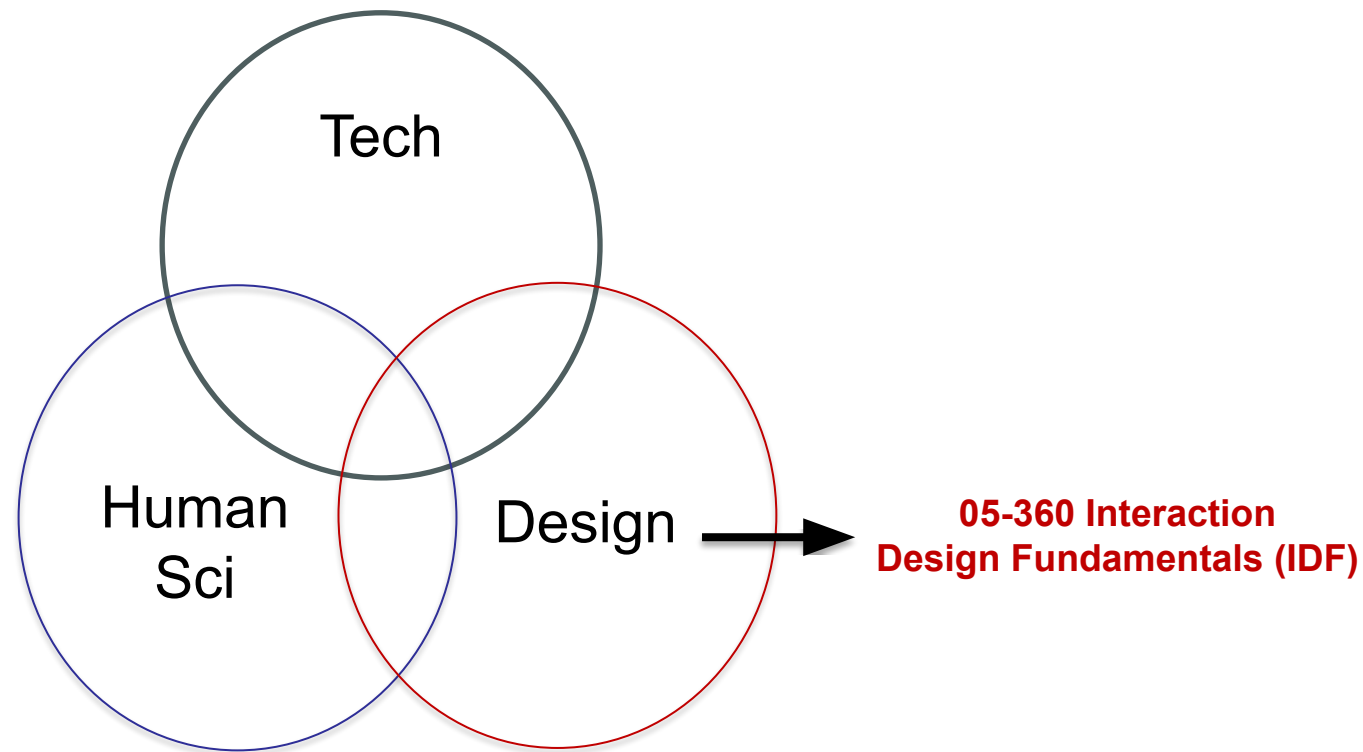
05-410 User-Centered Research & Evaluation

UCRE is an overview course, focused on methods to understand people's needs and workflows, and to evaluate usefulness, usability, desirability of designs

- Observational methodologies involving field work
- Interview techniques to elicit user needs
- Analyze quantitative data from systems and users
- Evaluation techniques to test prototypes and existing systems



3 pillars of HCI and example core classes



05-360 Interaction Design Fundamentals

Interaction Design Fundamentals introduces the human-centered design process as well as fundamental interaction design principles, methods, and practices.

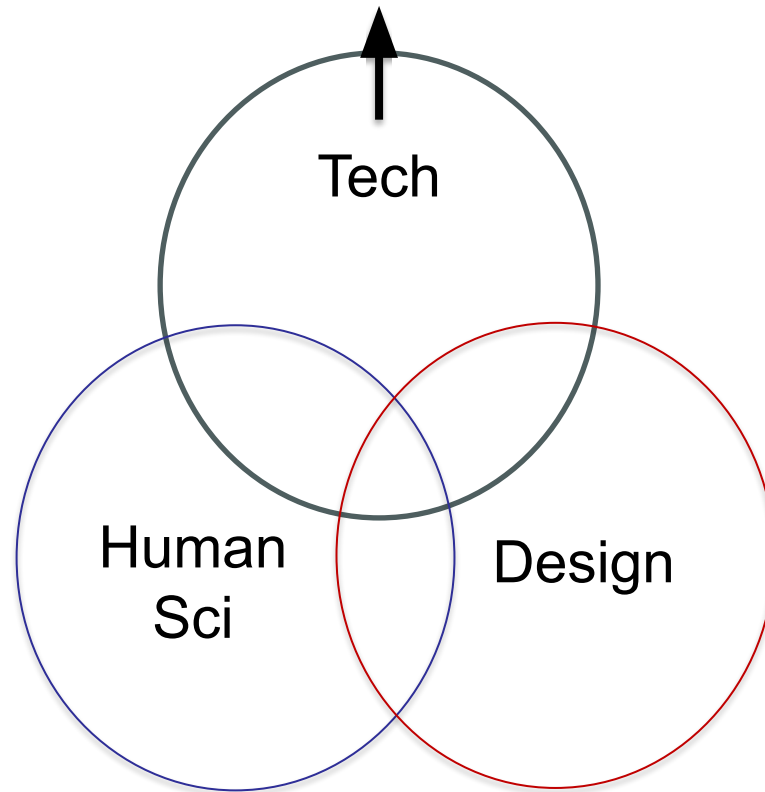
Learning goals:

- Generate persuasive design artifacts that effectively communicate design goals.
- Explore and experiment with various interaction design materials.



3 pillars of HCI and example core classes

05-431 Software Structures
for User Interfaces (SSUI)



05-431 Software Structures for User Interfaces (SSUI)

This course covers the basic and detailed concepts that go into building software to implement user interfaces (UIs).

Cover the Tools and Skills for a variety of "front-end" programming contexts, including

- **Conventional graphical user interface (GUI)** programming for mobile apps (phones, watches and other wearables), web apps, and regular desktop applications.
- **Data-driven and conversational (AI) user interfaces** (including speech and "chat bots")
- **Front-end programming for visualizations, games, 3D, and virtual and artificial reality (VR and AR).**

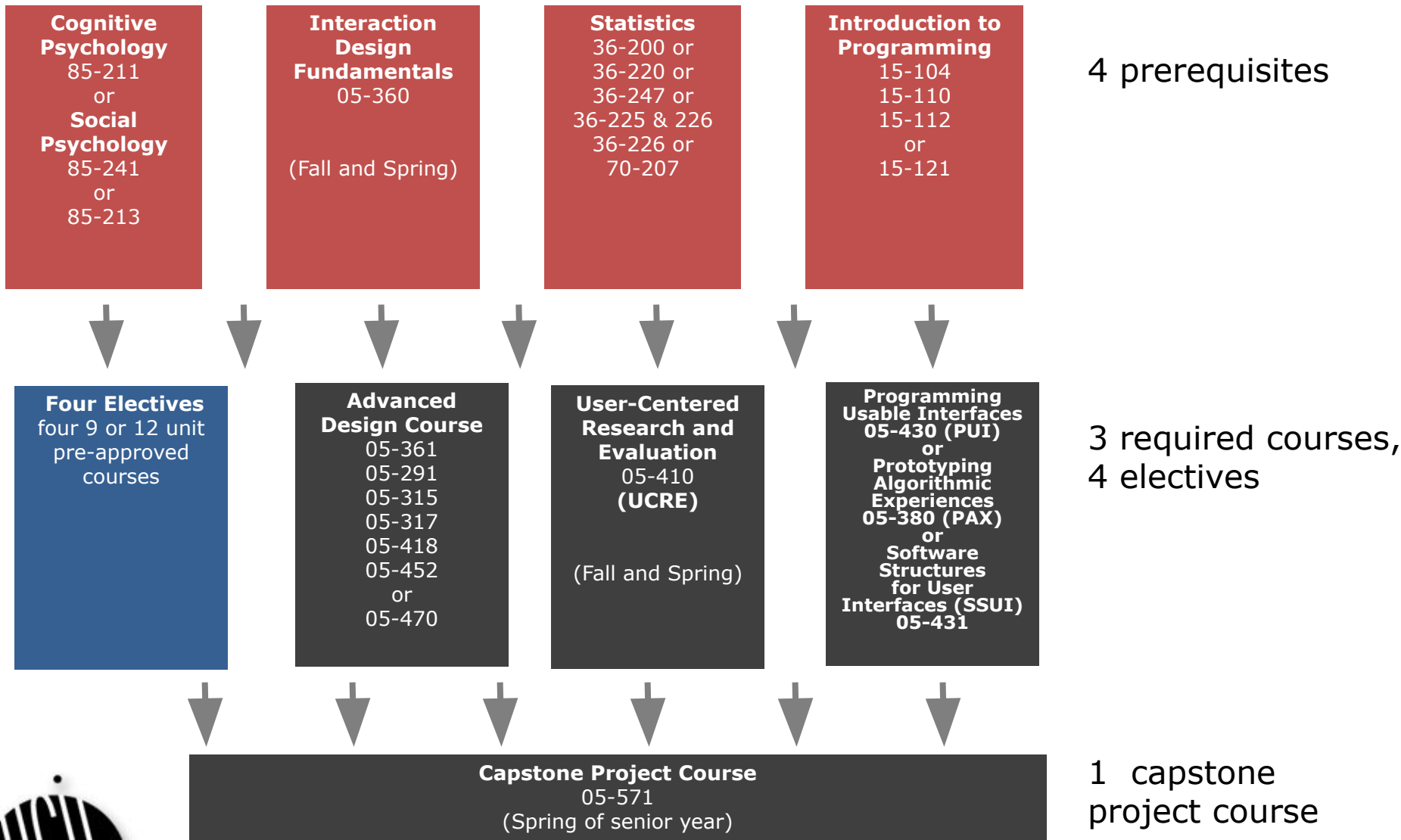


Agenda

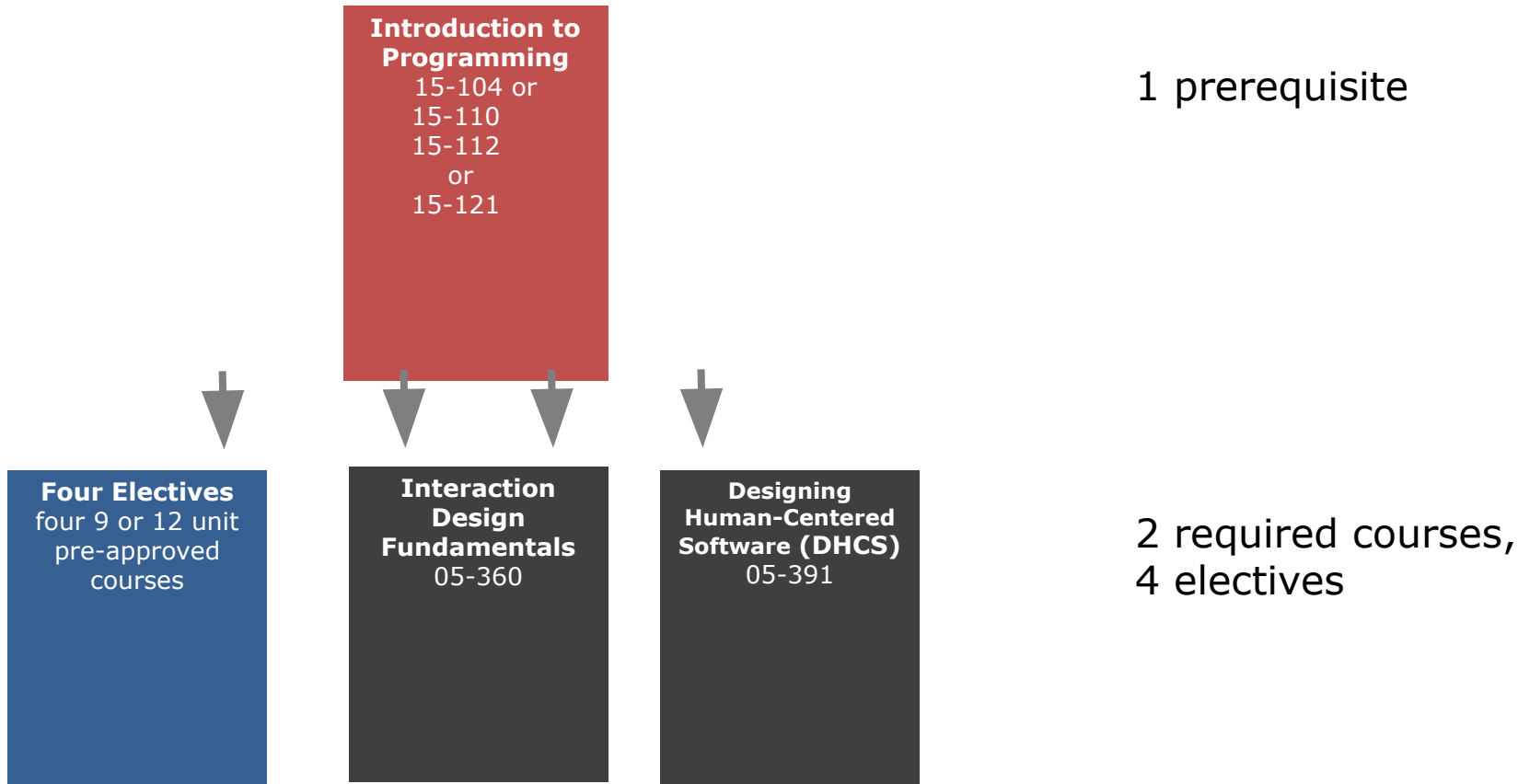
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HCI Additional Major Requirements



HCI Minor Requirements



Comparison: HCI Additional Major & HCI Minor

	HCI Additional Major	HCI Minor
Admission	Application & admission required	Application & admission required
Prerequisite	<ul style="list-style-type: none"> • Freshman-level programming (15-110 or 15-112 or 15-121 or 15-104) • Statistics (introductory) • Cognitive or Social Psychology (85-211 or 85-241 or 85-213) • Interaction Design Fundamentals 05-360 	Freshman-level programming (15-110 or 15-112 or 15-121 or 15-104)
Core courses	<ul style="list-style-type: none"> • Advanced Design Course • User-Centered Research & Evaluation (UCRE) 05-410 • Programming/Prototyping 05-430 (PUI) or 05-380 (PAX) or 05-431 (SSUI) • Senior Project (Capstone) 05-571 	<ul style="list-style-type: none"> • Interaction Design Fundamentals 05-360 • Designing Human-Centered Software (DHCS) 05-391
Electives	4 HCI electives	4 HCI electives
Double counting allowed	2 courses with primary major	2 courses with primary major



Overview of 5 HCII Undergraduate Programs

(The numbers shown here are the total number of students across multiple years)

Primary major in HCI: started in 2020; open to SCS students

19 students (students declare in spring)

HCI Concentration: open to SCS students

25 students (declare all year)

Additional Major in HCI: open to other undergrad colleges

110 students (application in March)

Minor in HCI: open to other undergrad colleges; not SCS

177 students (application in March)

Accelerated Master's in HCI (MHCI): open to primary major or additional major in HCI

1 currently; ≈20 apply each year (application in November)

Total: 332 students



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Who can apply?

- Any major can apply
- You do not need to have completed any prerequisites before you apply
- Typically sophomores apply
- Freshmen may apply, but the bar is higher (due to limited info)
- Juniors may apply if they can complete the program in the time remaining
- Repeat applications are welcome



Timeline: Applying to the HCI Additional Major & Minor Spring '24

- March 1: Applications open
- March 15, 11:59pm: **Applications due**
- April 8th: **Notifications of acceptance**
- April 10th: **Fall registration info session**
- April 15th: Fall registration begins



Application: HCI Additional Major

- Personal statement
 - Show writing ability & knowledge of the area
 - Highlight HCI experience
 - Relate HCI to personal interest and/or career goals
- Unofficial Transcript
 - QPA ranges from 3.0 to 4.0, with 3.5 typical
- Anticipated course schedule/plan
- Optional: recommendation letter, link to online portfolio (include with other materials)
- Admission is limited by enrollment caps on the required courses

[Application will be live on this page on March 1](#)



Application Process: HCI Minor

- Unofficial transcript (first-year students must include mid-semester grades)
- Anticipated course schedule/plan
- Optional: Link to online portfolio/recommendations
- Admission is limited by enrollment caps on core courses

[Application will be live on this page on March 1](#)



Applying to both programs

- If you want to be considered for both the additional major and the minor (in case you do not get into the additional major), **you need to apply to both.**
- If you apply to the HCI additional major only, you will **NOT** automatically be considered for the HCI minor. You have to apply to the HCI minor in order to be considered.



Double Counting Courses

- HCI Additional Majors AND HCI Minors are permitted to double count TWO courses with their primary major.
- Prerequisite courses are **not included** in this rule (e.g.: programming, psychology, stats)
- Courses considered to be General Education requirements in your home college/school often do not count toward this rule (but always check to make sure!)



Course Notes for Design Majors

HCI Minors who have a primary major in Design may:

- substitute any HCI (05-xxx) course for 05-360 Interaction Design Fundamentals

HCI Additional Majors who have a primary major in Design may:

- waive 05-360 Interaction Design Fundamentals



More Information

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For More Information

<https://hcii.cmu.edu/academics/hci-undergraduate/major>

<https://hcii.cmu.edu/academics/hci-undergraduate/minor>

<https://hcii.cmu.edu/academics/hci-undergraduate/additional-major-hci/admissions>

[HCI Catalog](#)

