

Project Installment 5

Low SES Persona Use Case

Lucas just got accepted to OSU and is about to start his first term, but has not selected a major yet. He is considering computer science and would like to figure out how much his first term would cost if he were to select computer science.

Mainstream Persona Use Case

Sarah just got accepted to OSU, she wants to know what text books she will need and what classes she should take her first year here as a CS major.

Prototype

We used a program called: Adobe Experience Design.

Here is the interactive link, where you can click on the blue squares that light up when you click on a random spot on the screen.

<https://xd.adobe.com/view/ae31017d-f705-42eb-9fc7-043a8f77f078>

- We also included a screen by screen breakdown below with our specific design decisions
- Screen Transitions can be found in ScreenTransitions.pdf (also submitted).

Design Decisions

When designing our software, we took note of how we were instructed to do GenderMag and "Channeled" our personas. After doing that, we began to see them as more than just the collection of factoids and attributes and decided upon some "heuristics" to guide our process. The connection between these "heuristics" and our personas are fairly clear to us, but if there is any confusion or need for clarification let us know (we have spent hours creating and channeling our personas so we really tried to be as clear as possible but a lot of theory of mind happens in the head). We will endeavour to point out parts of our design where we used these later in our screen by screen breakdown and reference these by the abbreviations (L1, or M1 for example).

Home Life

L1: [LOW SES] Non Authoritative Instructions. Instead frame in a question that they can answer or "suggest" as opposed to "instruct".

M1: [MID SES] Used to having technologies personalized and directed at helping her. Language should be friendly and helpful.

School Experience

L2: [LOW SES] Need language that he understands. Avoid overly complicated terms. Should try to present any numbers in digestible ways without a ton of math.

M2: [MID SES] She understands complex terms and phrases and is experienced in applying math to various parts of her life (like managing an allowance or a shopping cart).

Psychological Health

L3: [LOW SES] Don't overwhelm with options. Try to reduce the amount of choices (organize many links into categories)

M3: [MID SES] Wants to feel successful when using software and see clear signs of progress.

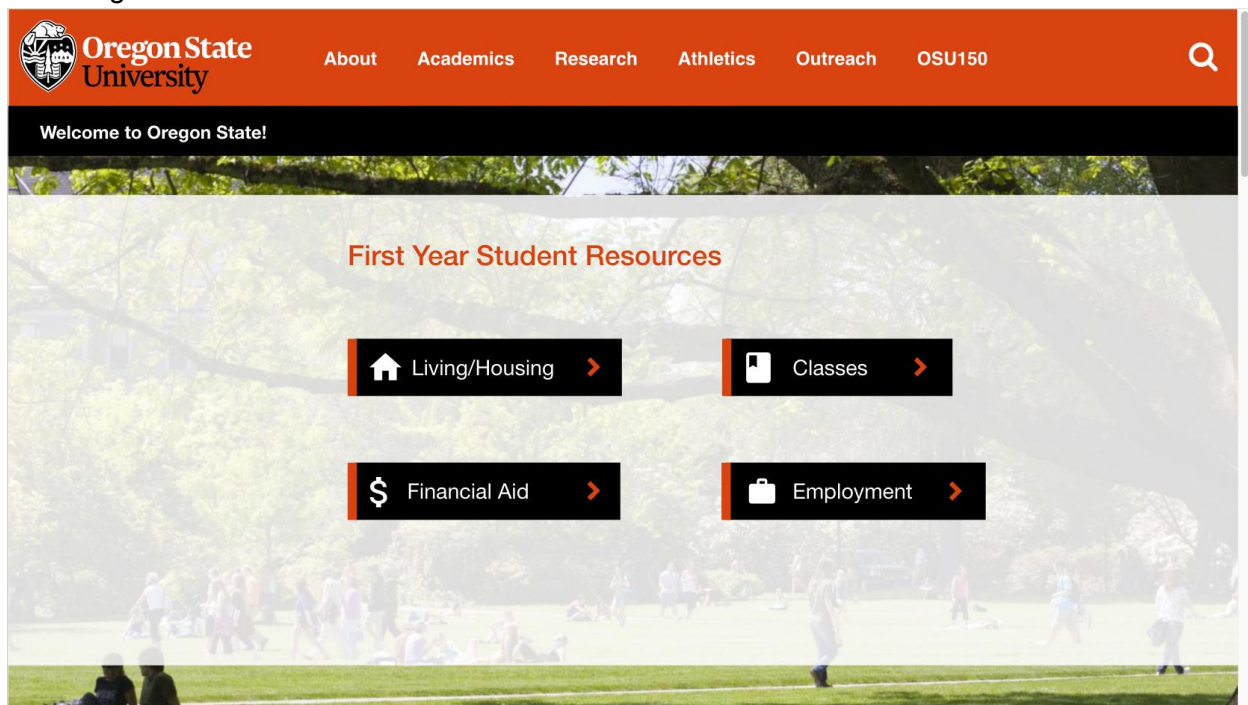
Career Aspirations

L4: [LOW SES] Often only thinks one step at a time. Present information for the here and now, but push towards future planning.

M4: [MID SES] She plans for the future and wants information that will help her with that.

Prototype screen by screen breakdown and justifications:

Note on our justifications in this section. For each screenshot we list our design decisions in order of importance for each image. Obviously with some images, more changes and we will have more decisions. We will **bold** any sources. Major decisions will have a source, smaller ones might not.



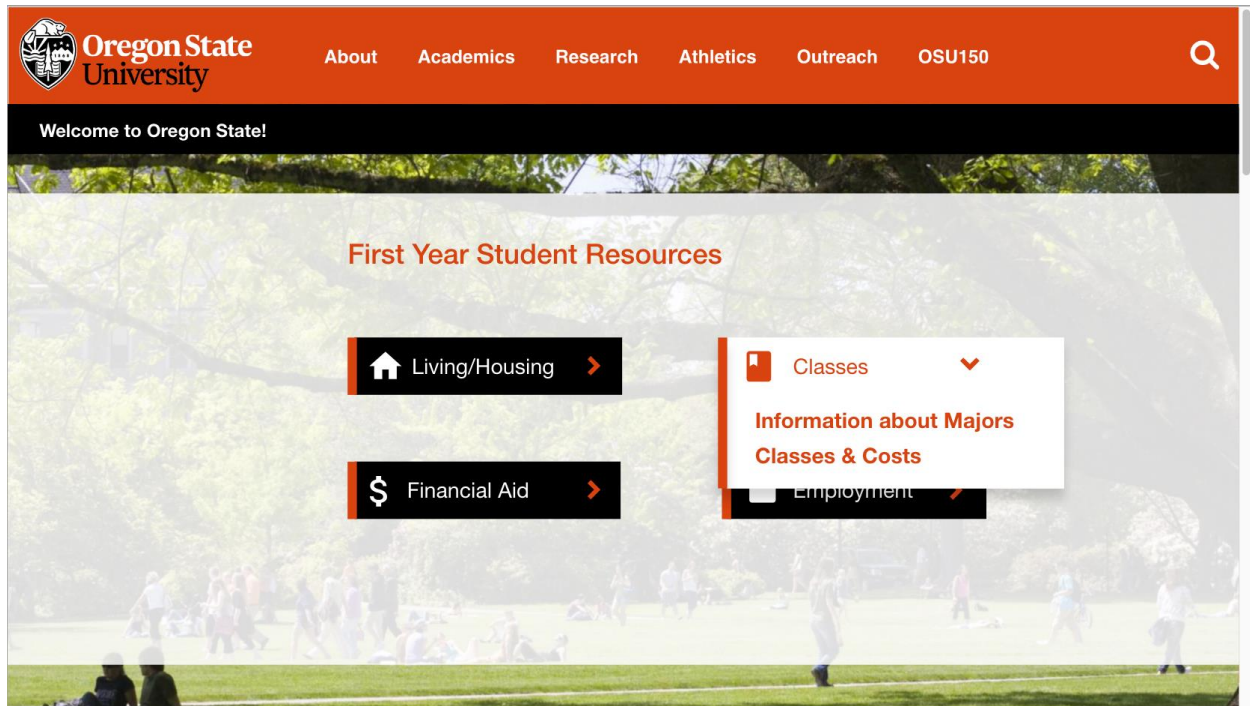
First Year Student Resources Home Page.

Justifications:

Resource buttons: Four resource buttons, appear closed initially as to not overwhelm the user. "Career" button renamed to "Employment" to follow our language heuristic: **L3**.

Smaller Design Decisions:

- Top bar taken from current OSU website to provide consistency.
- Color scheme and photos are taken from OSU to be consistent.

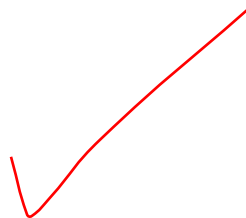


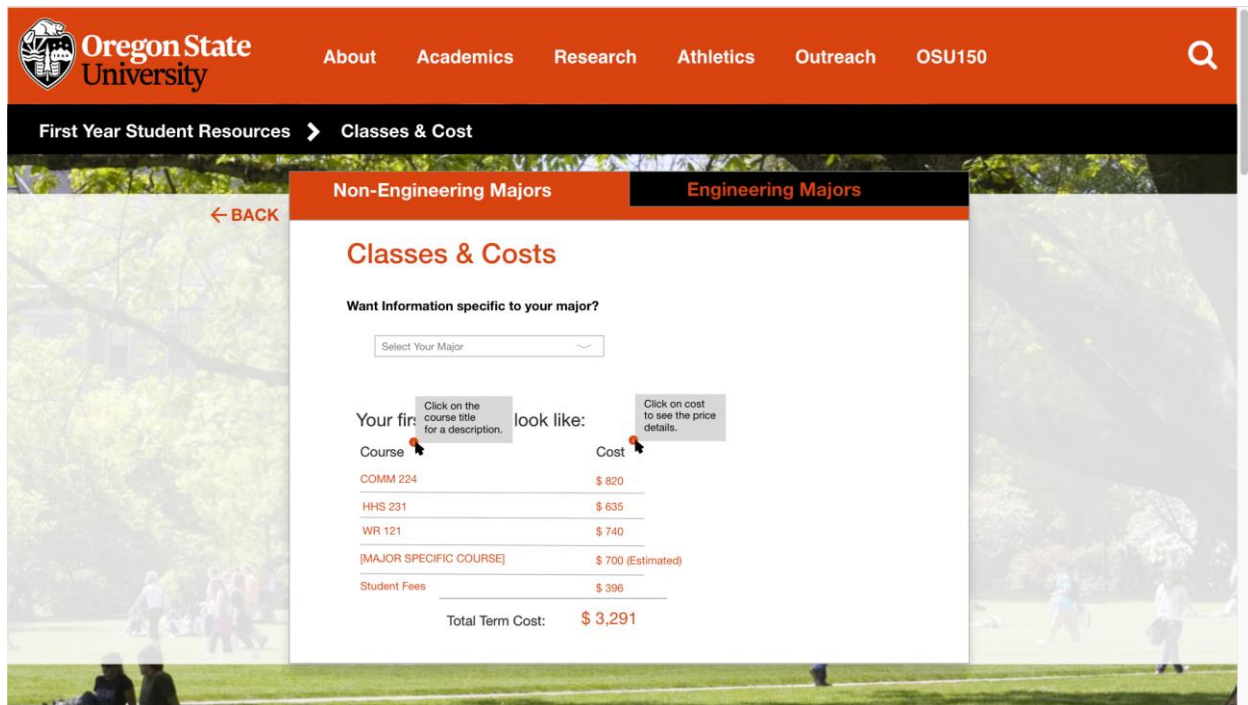
Classes expand

Justifications:

Smaller Design Decisions:

- Added the arrow and turned it to provide clear feedback.
- Renamed "Browse Class & Costs" to "Classes & Costs" for clarity based on **design gallery one feedback**.
- Renamed "Cost Overview" to "Information about Majors" based on **Design Gallery two Feedback**.





Non-Engineering Majors Tab

Justifications:

Tool Tips: Tool tips are an example of **surprise explain reward**, a design idea encouraged in the HCI 1 course. Of note clicking either the text or the cost will bring up the same modal we are just trying to support someone clicking for different reasons, but just because someone mainly wants class information, doesn't mean they don't care about cost and vice versa.

Paycheck layout: The layout of the page with various things adding up to a total is reminiscent of how paychecks are laid out. The idea here being that some of the only applied math familiarity **Lucas** would have is in receiving a paycheck(L2). **Example paycheck below**

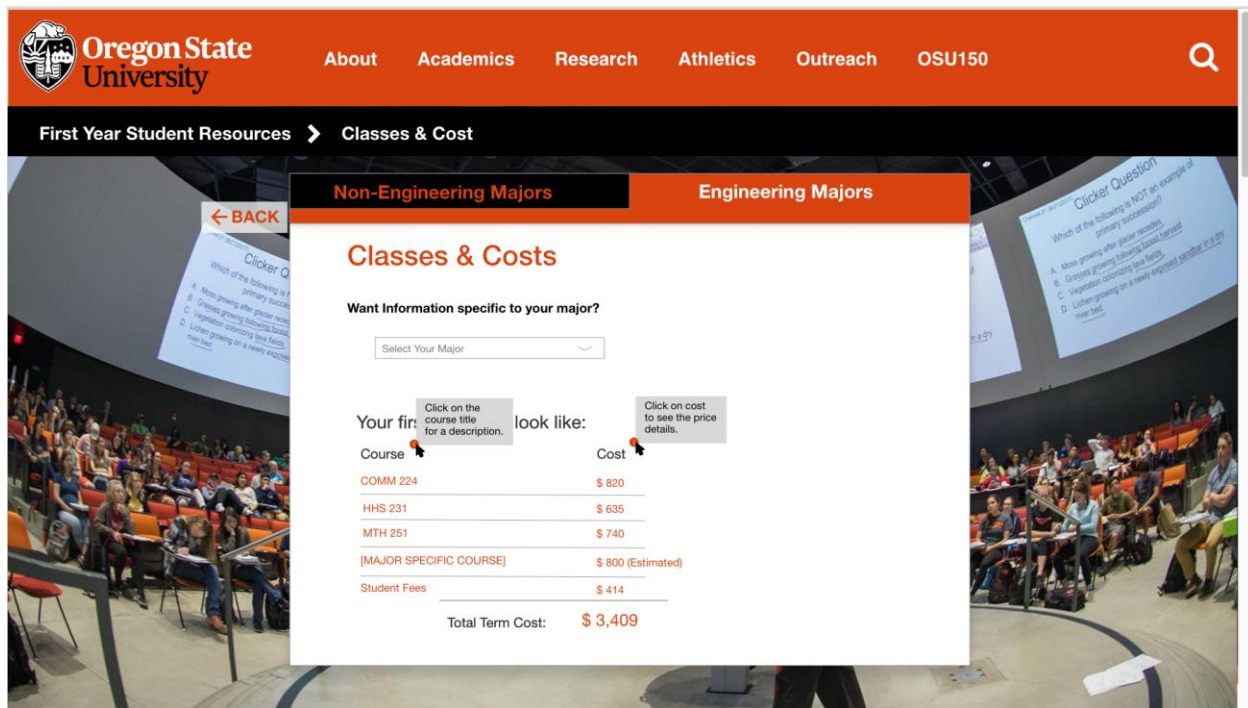
Required Deductions	
Federal Income Tax	00.00
FICA - Medicare	06.08
WI State Income Tax	00.00
FICA - Social Security	25.92
Other Deductions	
Health Insurance	00.00
401k	00.00
Parking	00.00
NET PAY	\$418.00

Smaller Design Decisions:

Renamed “Non-Engineering Disciplines” and “Engineering Disciplines” to “Non-Engineering Majors” and “Engineering Majors” to simplify the language. **L2** (Changed wording to use simpler terms).

Page provides an estimate based on a “generic plan” to be either a non-engineering or engineering student at OSU. This is to support those who have not selected a major yet, recommended to us in **design gallery 1**. We put the dropdown at the top in the hopes they will see and select it if the user does have a major though.

feed back



Engineering Majors Tab

Justifications:

Majors Tab: “Engineering Majors” tab now in orange, to show it is the one selected. **M3** (confirms her progress visually)

Smaller Design Decisions:

- Cost breakdowns changed to be increased to represent that engineering classes cost more, and have more fees.
- Additionally traded out a bacc core writing class for a math class as most engineers need to take at least half math/science/engineering classes in their first year.



Oregon State University

About Academics Research Athletics Outreach OSU150

First Year Student Resources > Classes & Cost

Non-Engineering Majors **Engineering Majors**

Classes & Costs

Want Information specific to your major?

Select Your Major

- Biological Engineering
- Civil Engineering
- Computer Science
- Electrical Engineering
- Nuclear Engineering

COMM 224	\$ 820
HHS 231	\$ 635
WR 121	\$ 740
[MAJOR SPECIFIC COURSE]	\$ 800 (Estimated)
Student Fees	\$ 414
Total Term Cost:	\$ 3,409

Select your major dropdown.

Justifications:

Dropdown field: Dropdown says "Select Your Major" to support **Sarah(M3)**,

Dropdown title: Title for dropdown is a question "Want information specific to your major?" to support **Lucas(L1)**

Oregon State University

About Academics Research Athletics Outreach OSU150

First Year Student Resources > Classes & Cost

Non-Engineering Majors **Engineering Majors**

Computer science has been selected

Classes & Costs

Want Information specific to your major?

Computer Science

Your first term may look like:

Course	Cost
COMM 224	\$ XXX.XX
[course]	\$ XXX.XX
Total Term Cost:	\$ XXX.XX

[Click here to see your entire first year in detail](#)

Total First Year Cost: \$ XXX.XX

Confirmation Toast

Justification:

Toast: Included toast to give a sense of progress(**M3**), as well as confirmation to previous action.

Wording: “Your first term may look like:” is trying to be friendly(**M1**) and non authoritative (**L1**)

The screenshot shows the Oregon State University website. The top navigation bar includes links for About, Academics, Research, Athletics, Outreach, and OSU150. Below this, a banner for 'First Year Student Resources' highlights 'Classes & Cost'. The main content area is titled 'Classes & Costs' and features a dropdown menu for 'Computer Science'. A table lists the following courses and costs:

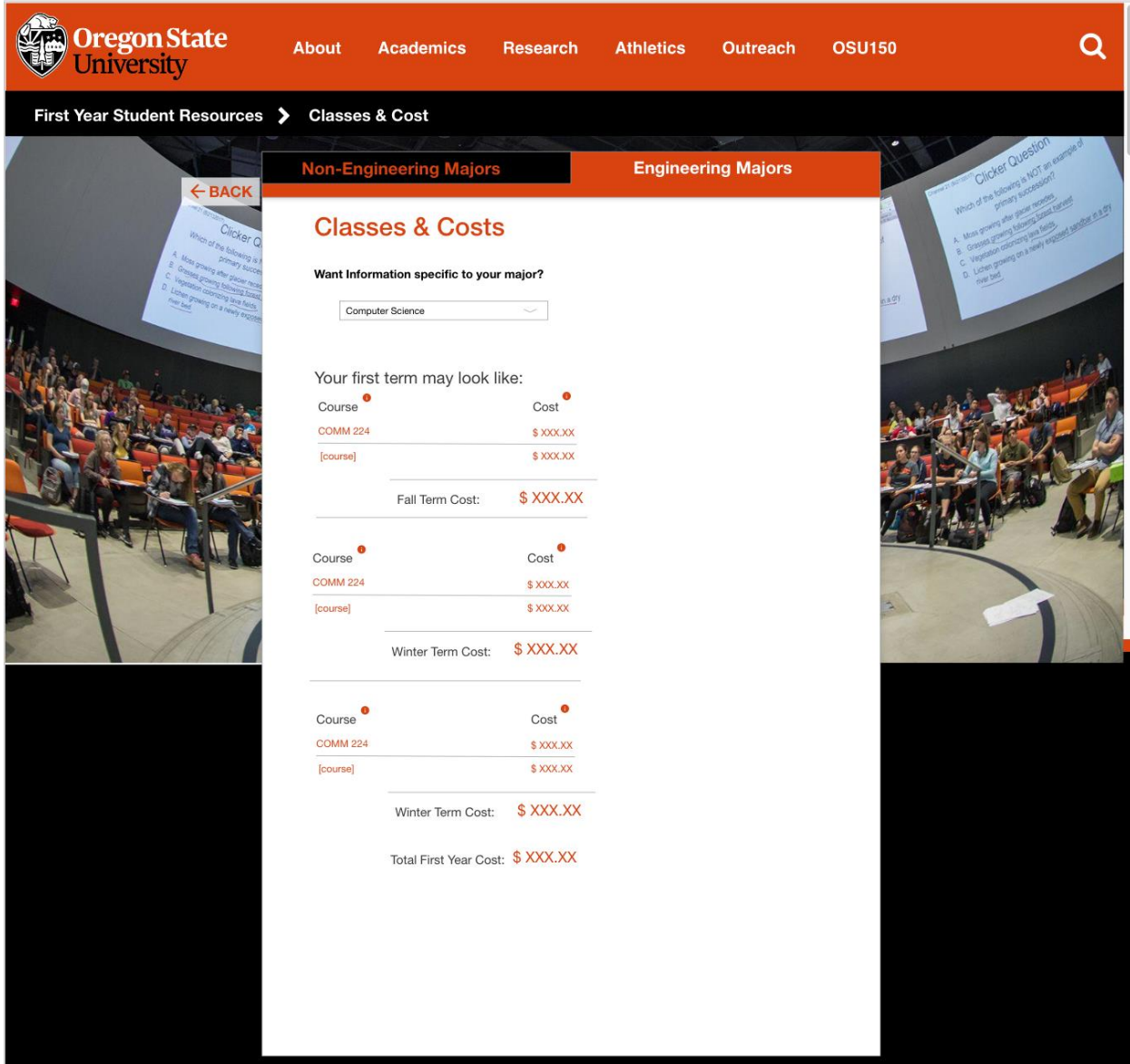
Course	Cost
COMM 224	\$ 820
HHS 231	\$ 635
WR 121	\$ 740
CS 160	\$ 904
Student Fees	\$ 414
Total Term Cost:	\$ 3,558

Below the table, a link says 'Click here to see your entire first year in detail'. At the bottom, the 'Total First Year Cost' is listed as \$ 12,535. The background of the page shows a lecture hall with students and a 'Clicker Question' on the screen.

First term CS costs.

Justifications: We intended this to support both **L4** and **M4**, both planning for the here and now(this term view) and the future(view full year). We additionally think that **Lucas** would benefit from seeing the full year cost and perhaps planning ahead, even if it is not his instinct to do so (nor is it in his use case).

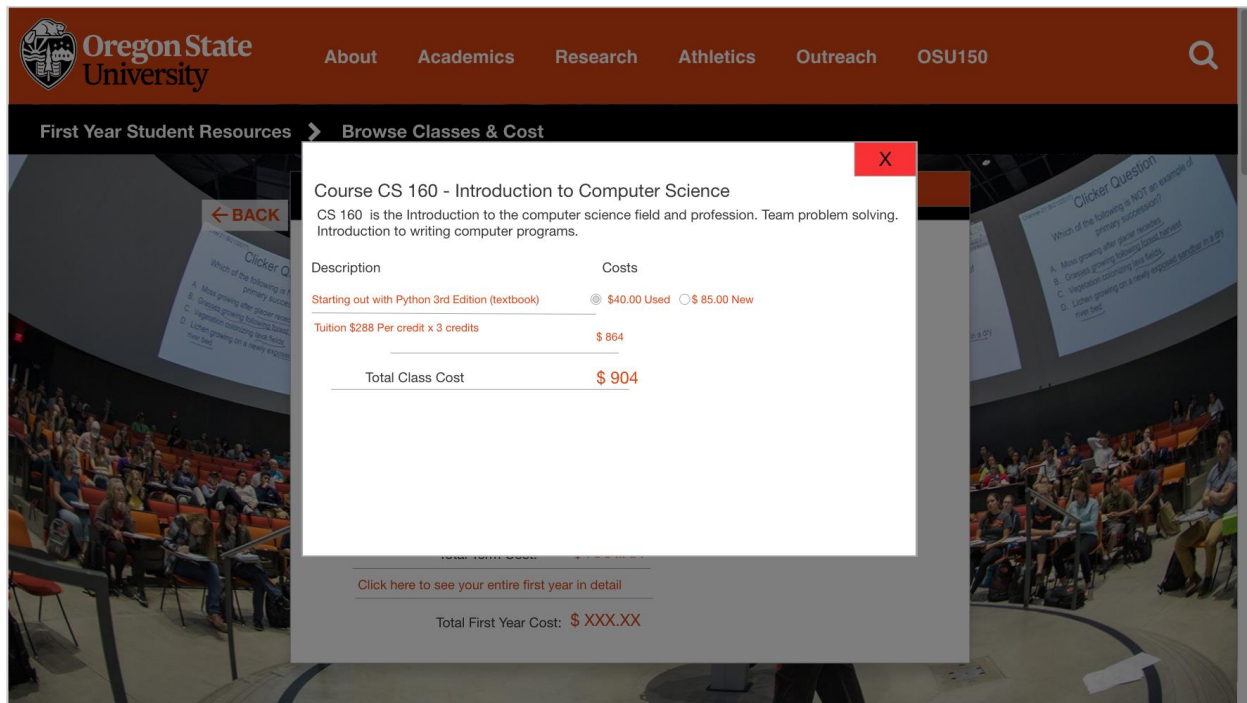




Classes and cost for the year(of note this is a medium fidelity screen, the cost/classes are placeholders)

Justification: This screen is designed to adhere to the paycheck layout of before but including additional terms. We believe the different costs of different terms will be a **“surprise”** to a college freshman, and so this screen will help to **“explain”** and **“reward”** both our personas as well. **Sarah** will enjoy being able to see the classes she will be taking and plan ahead(**M4**).

Lucas might not end up here, but if he did, he would benefit from understanding exactly how much he will be paying for the whole year, given that running out of money a term or two in would not be ideal.



CS160 Modal

Justifications: We wanted to show how courses can vary in cost based on number of credit hours, and book cost. When it applies, some courses also have lab fees or required equipment (like chemistry has goggles and lab coats you have to purchase) so this would be where we would list this as well. The interface is similar to online stores like amazon, which Sarah may be familiar with (M2). It also provides the information to Lucas that he can save money by looking at cheaper textbooks.



Oregon State University

About Academics Research Athletics Outreach OSU150

First Year Student Resources > Browse Classes & Cost

[← BACK](#)

First term computer science student fees

Fee name and description	Fee Cost
Building Fee: This fee is charged every term to pay for building maintenance	\$28
Incidental Fee: This fee is charged every term to pay for 13 different programs, including Corvallis Transit and Recreational Sports. You can view the full list here	\$36
Matriculation Fee: This one time-fee for enrollment which is charged to first term undergrads to pay for services such as pre-enrollment advising, course drop/add/withdrawal, and official transcripts.	\$350
Total Fall Term Fees	\$414

[Click here to see your entire first year in detail](#)

Total First Year Cost: \$ XXX.XX

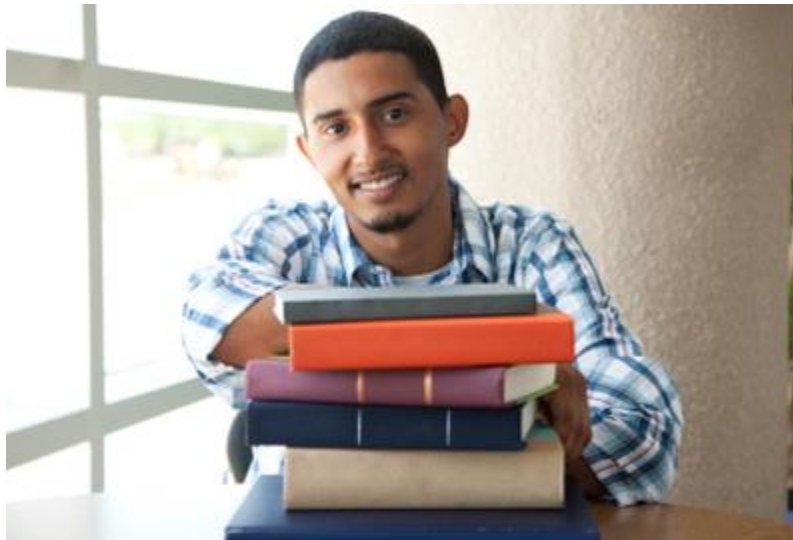
Fees Modal

Justifications: Fee names are unchanged for consistency with how they are billed, but we did change the descriptions to try to get simpler wording (like using enrollment to describe matriculation fee). Whether a fee was one time or recurring was emphasized by placing it towards the front of the description. This also is geared at helping **Lucas** plan for the present while encouraging him to plan for the future (**L4**) by letting him know certain fees will be charged every term so that he could plan for them.



Updated Personas

Underserved Population(Low SES)



Lucas: Male, Latino, age 24

Is from a Hispanic family and was raised by his single mother. After high school, he worked as a mechanic for a few years. With some of his savings from that, he began as a part time community college student in tandem with his work. He is transferring to OSU from community college. While he didn't grow up around computers, he did go to the library and use their computer about once a week. Sometimes his friends would go with him and they would play games on it. After getting his job as a mechanic he bought a used computer which he uses when he has time.

Home Life

Being raised by a single mom with several siblings¹, Lucas's home was a loud chaotic environment, and not very conducive to learning². His mom was strict and authoritative with him and his siblings and Lucas's mom would tell him to do things "because I said so"³. Lucas didn't have many books or learning toys at home, and instead would have to spend time hanging out with friends or outside, without many learning opportunities⁴.

School Experience

Attending a school in a poor neighborhood, Lucas's teachers were often ill equipped to deal with large class sizes and his classes often lacked new books and learning materials^{5 6}. As such,

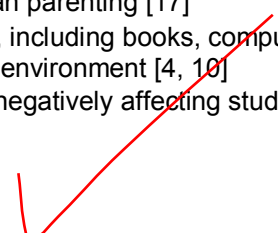
¹ Seven in 10 children living with a single mother are low income, compared to less than a third (32 percent) of children living in other types of family structures [14].

² Lower SES has been linked to domestic crowding, a condition that has negative consequences for adults and children, including higher psychological stress and poor health outcomes [9].

³ Many studies have found a relationship between low SES and authoritarian parenting [17]

⁴ Poor households have less access to learning materials and experiences, including books, computers, stimulating toys, skill-building lessons, or tutors to create a positive literacy environment [4, 10]

⁵ The school systems in low-SES communities are often under resourced, negatively affecting students' academic progress and outcomes [1]



while Lucas can read, write and do arithmetic his skills relative to his peers are lacking⁷. Additionally, in the realm of digital skills, Lucas struggles⁸. Defining information problems, specifying proper search queries and evaluating the information of said search queries are difficult tasks for him⁹.

Psychological Health

Due to the stressors of Lucas's environment, his psychological health has suffered. He is emotionally volatile, and as such can feel overwhelmed and lash out¹⁰. Often at home and school he feels powerless, unable to question authority¹¹. This leads him to not question his economic situation either, rather he sees it as justified¹² and doesn't criticize any government authority¹³.

Career Aspirations

Lucas does not aspire to have a career that will make him rich, rather he just wants to obtain and hold a job¹⁴. As such his career prospects focus on what is attainable not necessarily on other factors like glory and wealth¹⁵. Due to lacking digital skills and his school not having a guidance counselor, he has never searched out much online about career information¹⁶. Because of this he doesn't know exactly what kind of career he wants to pursue or what he might be qualified for or be good at¹⁷.

⁶ Schools with students from the highest concentrations of poverty have fewer library resources to draw on (fewer staff, libraries are open fewer hours per week, and staff are less well rounded) than those serving middle-income children [11].

⁷ Children from low-SES families enter high school with average literacy skills five years behind those of high-income students [12].

⁸ There is a marginal effect of ESCS (economic, social and cultural status) as a whole on students' digital skills was equal to the effect on mathematics and greater than the effect on language [5].

⁹ Research on information-problem solving shows that while students may have the ability to find information using digital technology, they have difficulty in defining information problems, specifying proper search queries and evaluating the information that they find [5].

¹⁰ Lower levels of SES are associated with higher levels of emotional and behavioral difficulties, including social problems, delinquent behavior symptoms and attention deficit/hyperactivity disorder among adolescents [6, 13, 15].

¹¹ A sense of powerlessness fosters system justification [16]

¹² The strongest form of this hypothesis, which draws on the logic of cognitive dissonance theory, holds that people who are most disadvantaged by the status quo would have the greatest psychological need to reduce ideological dissonance and would therefore be most likely to support, defend, and justify existing social systems, authorities, and outcomes [8]

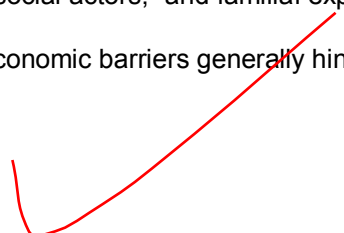
¹³ low income Latinos were more likely to trust in U.S. government officials and to believe that "the government is run for the benefit of all" than were high income Latinos [8]

¹⁴ A study showed that individuals from a lower social class generally had less career-related self-efficacy when it came to vocational aspirations [2].

¹⁵ Career barriers are significantly higher for those from poor backgrounds, people of color, women, those who are disabled, and LGBTIQ-identified individuals [3].

¹⁶ Those from higher social class backgrounds tend to be more successful in developing career aspirations and are generally better prepared for the world of work because of access to resources such as career offices, guidance counselors, better schools, high level "social actors," and familial experience with higher education [7].

¹⁷ Diemer and Blustein (2007) found that racial, ethnic, and socioeconomic barriers generally hinder individuals' vocational development [7].



Mainstream Population (Mid SES)



Sarah: Female, caucasian, age 18

Sarah grew up in a suburb of Portland, where she attended a public high school with a bus system. On days that she missed the bus, her parents would be annoyed but able to drive her to school. She got in to OSU and received some academic scholarships after applying for several, due to her high grades and participation in extracurriculars. Having received career guidance in high school, she arrived with the idea of majoring in Computer Science.

Home Life

Sarah's parents held office jobs and while they worked full time they were able to spend time with Sarah in evenings, and sometimes the afternoons when they got off work early. During the early years of her life her mother didn't work and spent time playing and engaging in early childhood educational activities with her. Throughout high school, her father helped her with homework assignments and drove her to after-school activities including team sport practices and games.

School Experience

Sarah went to a public high school and was consistently encouraged by her parents to study hard, which led to enrollment in advanced classes. Her school had computer resources, instruments, and sports equipment available for use, and she was able to explore her interests among them. As part of education, her school required her to take a career class taught by her high school guidance counselor where she explored career options. It gave her early exposure to what college majors led to different career paths.

Psychological Health

Sarah's parents were engaged with her development throughout her life and brought her to various public events in Portland and the surrounding landscape of Oregon, exposing her to a variety of environments. Growing up her parents would commend her problem solving abilities, and encourage her to take on difficult tasks because "We know you can do it". She is used to succeeding at whatever she attempts with hard work. She feels lonely in college but is able to call home and be comforted by her family.

Career Aspirations

After examining career outlooks from BLS.gov in her high school career class, Sarah saw that the fastest growing and most stable areas at the time of her graduation were technology and medicine. She is easily 'grossed out' and decided not to pursue medicine, so she already

knows that she doesn't have to take biology or chemistry classes in college, as they won't apply to her. She is taking introductory programming class to prepare her for upper level electives, and plans on applying for an internship in her junior year.

