Fathom Marine Consultant's UI UX for Front End.

Week 1: Usability Fundamentals & User-Centered Design

Learning Objectives:

- Understand core principles of intuitive design.
- Learn how users actually behave vs. how we think they behave.
- Discover how to reduce cognitive load in digital products.

Topics Covered:

1. **What is Usability?**
    - "Usability means making sure something works well… that a person of average ability and experience can use it." – *Krug*
    - Affordances, Signifiers, Constraints, and Mappings – *Norman*
2. **Don't Make Me Think Principle**
    - Every click should be obvious.
    - Self-evident navigation is key.
    - Example: Amazon's one-click purchase.
3. **Mental Models & Conceptual Models**
    - *Norman:* Users form mental models based on previous experiences.
    - Your interface must match or gently reshape them.
4. **Gestalt Principles in Design** (from *Laws of UX*)
    - Proximity, Similarity, Closure, Continuity, Figure/Ground
5. **Hick's Law**
    - Time to make a decision increases with number and complexity of choices.

Assignments:

- UX diary (document 3 good/bad user experiences).
- Redesign a basic login page with annotated UX improvements.

Week 2: Human Psychology in UX & Interaction Design

Learning Objectives:

- Apply cognitive psychology to UI/UX design.
- Evaluate existing products through usability principles.
- Learn principles of interaction design.

Topics Covered:

1. **Fitts's Law**

    - "The time to acquire a target is a function of the distance to and size of the target."
    - Larger buttons are easier to click, especially in touch interfaces.
2. **Recognition vs. Recall** (Norman)
    - Interfaces should minimize the need to remember. Show options.
    - Example: Recently viewed items, predictive search.
3. **Jakob's Law**
    - Users prefer your site to work the same way as all other sites they already know.
    - Design for familiarity over originality.
4. **Feedback and Error Prevention**
    - *Norman:* Provide feedback for every action.
    - Slips vs mistakes: Design should prevent both.
5. **Miller's Law**
    - Users can hold 7 ± 2 items in working memory.
    - Break tasks into smaller steps.

Assignments:

- Compare 2 competing apps using UX laws.
- Heuristic evaluation using Nielsen's 10 principles.
- Sketch a landing page using 3 Gestalt principles and 2 UX laws.

Week 3: Usability Testing & Flow Optimization

Learning Objectives:

- Build and test low-fidelity prototypes.
- Learn basic UI writing and microcopy principles.
- Understand how to design for accessibility.

Topics Covered:

1. **Usability Testing (Krug's Method)**
    - "Testing one user is 100% better than testing none."
    - Test early, test often.
2. **Serial Position Effect**
    - People best remember the first and last items.
    - Apply to menus, steps in onboarding, form flows.
3. **Tesler's Law (Law of Conservation of Complexity)**
    - You can't eliminate complexity, only shift it.
    - Don't offload it onto the user.

4. **Error Messages and Microcopy**
    - Write with empathy.
    - Use familiar language.
    - Actionable, non-blaming phrasing.
5. **Von Restorff Effect (Isolation Effect)**
    - Distinct elements are more memorable.
    - Use to highlight CTAs, alerts, upgrades.

Assignments:

- Conduct a usability test on a paper prototype.
- Redesign 5 microcopy examples with better tone and clarity.
- Create a brand style tile (colors, fonts, button styles).

Week 4: Prototyping, Design Systems, and Final Showcase

Learning Objectives:

- Consolidate knowledge into a full user flow.
- Develop and present a complete UI/UX prototype.
- Understand the principles behind scalable design systems.

Topics Covered:

1. **Design Systems**
    - Components, tokens, spacing, typography.
    - Atomic Design methodology.
2. **Aesthetic-Usability Effect**
    - Users perceive more aesthetically pleasing designs as more usable.
    - Emotional impact matters.
3. **Accessibility Principles**
    - WCAG guidelines (color contrast, keyboard navigation).
    - Inclusive language and design.
4. **Flow Optimization and Speed (Doherty Threshold)**
    - Systems should respond within 400ms to keep users engaged.
5. **Final Recap: The Five Essentials from Each Book**
    - *Krug:* Don't make users think; test early; clear navigation; remove distractions; build for scanning.
    - *Norman:* Good mapping; feedback; constraints; affordances; user-centered design.
    - *Laws of UX:* Base design in cognitive psychology to improve usability.

Final Project:

- Full user flow for a budgeting app or wellness tool (Web + Mobile)
- Deliverables: Wireframes, Style Guide, UX Law Annotations, Microcopy, Prototype
- Present with rationale and user testing summary

Optional Tools & Platforms:

- Design: Figma, Adobe XD
- Collaboration: Miro, Notion, Slack
- Testing: Maze, Useberry, Lookback
- Accessibility: Stark Plugin, Axe DevTools

Certification Criteria:

- Weekly submissions and participation
- Final prototype and presentation
- Peer feedback participation

End of Curriculum