DESIGNING for PEOPLE | The University of British Columbia

CPSC 544 (DFP Fundamentals) – Skills Inventory Form

This form is for DFP students wishing to be exempt from taking CPSC 544 because they have gained the delivered materials of this course elsewhere already. The form should be emailed to dfp-admin@dfp.ubc.ca. It will be assessed by the DFP Management Committee and the student may be asked for a follow-up interview.

To be considered for exemption from CPSC 544, a student needs to demonstrate that they are very familiar or extremely familiar (scale levels 4 or 5) with:

- one skill in the A category
- all skills in the B category
- one skill in the C category
- and at least some skills in the D category.

Student name (First name Last name): _____

Student/Application number: _____

Department/Faculty: _____

Faculty supervisor (if applicable): _____

Identify how well you know the following materials on a scale from 1 to 5. Also, please indicate the source of your knowledge (a course, a workshop, hands-on experience, …).	
Scale	1 - Not familiar at all - never heard about it 2 - Largely unfamiliar - have heard about it 3 - Somewhat familiar - have knowledge through reading about the method / activity / concept 4 - Very familiar - have minimally applied the method / practiced the learning / activity / concept 5 - Extremely familiar - have deeply applied the method / activity / concept

	CPSC 544 competencies/skills	Method / activity / concept skill details	Scale (1-5)	Comments & Source of knowledge
A	**User/Human-centered design**	Know overall user/human-centered design process, including its iterative nature and methods for various stages, including understanding the user and their context, eliciting requirements, generating design concepts, prototyping, and evaluating.	1	
A	**Design thinking**	Know overall design thinking process, including it iterative nature and methods for empathizing with people, exploring the problem area in-depth in order to define the right problem, ideating potential solutions, creating prototypes, and evaluating/testing the prototypes.	1	
B	**Method – Observations**	Know when observations are an appropriate method, how to conduct an observation session – determining what to observe, and how to both collect and document observation data.	1	
B	**Method – Interviews**	Know different types of interviews and when interviews are an appropriate method, how to conduct an interview, how to write interview questions, and how to collect and document interview data.	1	

B	**Method – Questionnaires**	Know when questionnaires are an appropriate method, different styles of questions (open, closed, Likert, etc.), how to design/write questionnaires, how to collect and document data through survey tools.	1	
B	**Method -- Qualitative Analysis Techniques**	Know the fundamentals of qualitative analysis: thematic analysis, affinity diagrams, data triangulation, reliability and validity, varying types of data that different methods provide.	1	
B	**Method – Establishing Requirements**	Create a task description, a problem statement, and a requirement, specification, and explain the similarities and differences between the three; identify appropriate metrics for a given requirement.	1	
B	**Method – Usability Testing**	Conduct a usability test. Know the role of usability testing in HCI, how it is different from other evaluation methods, and how to plan and conduct a usability study.	1	

C	**Method – Field Studies**	Design, execute, and write up a study in the field that is largely qualitative (not a usability study, not an experiment).	1	
C	**Method – Experiments**	Conduct an experiment. Describe the experimental method, define and test a hypothesis, plan an experiment including the statistics to be used, report the results. (2) Describe an analysis of variance (ANOVA), different types of ANOVA, and (3) describe the different forms of validity.	1	

D	**Design frameworks and approaches**	Explain different frameworks and approaches to design; e.g. human-centered design vs. user-centered design vs. technology-centered design, and how they compare.	1	
D	**Ethics of working with human subjects**	Know the ethics of working with human participants at UBC, including the BREB **(**Behavioural Research Ethics Board**)** process, and Canada's tri-council TPCS2 (tutorial on ethics).	1	
D	**Method – Personas**	Develop a persona for an HCI project; describe different types of personas and identify and prioritize them.	1	
D	**Mental Models**	Describe mental models and their characteristics; how a mental model can be acquired; explain Norman's 7-stage model; identify a mismatch in mental models.	1	
D	**Method – Conceptual Models and Design**	Describe a design's conceptual model, components of a conceptual model (e.g. metaphors, interaction types, objects/attributes, etc.), design a conceptual model as an approach to meeting requirements, and implement a conceptual model in a design; be able to identify the risks and limitations of getting conceptual design wrong.	1	

D	**Human abilities**	Explain models and theories of human performance and abilities, such as attention, divided attention, color, focus, motor; relate them critically to a design task; describe Fitts' law and critique an interface considering this principle.	1	
D	**Method – Prototyping and sketching**	Describe different levels of prototyping (low, medium, high), purpose and characteristics of each; make strategic choices about prototyping tools and be able to justify them; create prototypes across the fidelity levels.	1	
D	**Method – Discount evaluation methods**	Conduct a Cognitive Walkthrough and Heuristic Evaluation; describe why they are considered as discount usability methods.	1	
D	**HCI (Human-computer interaction) Research**	Read, comprehend, and critique published research papers in the HCI literature; effectively identify, apply, and propose appropriate design methods and data collection/analysis techniques when investigating a potential research problem.	1	
D	**New approaches to design in HCI (Human-computer interaction)**	Recognize futuristic and non-affirmative (problem solving) approaches to HCI design; e.g. critical design, design fiction, and speculative design, and compare with user-centered design.	1	
D	**Academic paper/report writing**	Write an academic paper or an academic report.	1	
D	**Teamwork skills**	Work on a project in a team over several months; be familiar with team development and project management.	1	
D	**Presentation skills**	Present a project effectively and professionally in a fixed amount of time, and answer questions.	1	

	Other input: