Revision Report

Note, all dates below are the dates that changes were moved into the Gamma, not necessarily the date they were considered/decided upon. This field is rather moot.

Feedback comment: Many small wording and grammatical comments

How incorporated: Almost all accepted

Why not incorporated:

Date considered: June 13

Feedback comment: add topic to KU Methods for Ethical Analysis: Why ethics is important in computing. How ethics is similar to, and different from, laws and social norms.

How incorporated: added, along with new learning outcome “Evaluate how and why ethics is so important in computing and how it relates to cultural norms, values, and law.”

Why not incorporated:

Date considered: June 13

Feedback comment: In CS Core learning outcomes of KU methods for Ethical Analysis, none of these require justifying a decision

How incorporated: Added new learning outcome: “Justify a decision made on ethical grounds.”

Why not incorporated:

Date considered: June 13
Feedback comment: In KU Professional Ethics, “There is a strong emphasis on individuals in this section. While that is not wrong, organizations also play a major part. This is of course mentioned in this section, but I think it is understated. For example, in Topics, KA Core, Item 1, maybe say ‘The role of the computing professional and professional societies in public policy.’ (Or break that into two items, one for individuals and one for organizations.) Or in Illustrative Learning Outcomes, KA Core Item 1, say ‘Describe ways in which professionals and professional organizations may contribute to public policy.’”

How incorporated: Added “The role of the computing professional and professional societies in public policy.” as suggested. Also added “Describe ways in which professionals and professional organizations may contribute to public policy.” as suggested.

Why not incorporated:

Date considered: June 13

Feedback comment: Add “Ideally, intellectual property laws balance the interests of creators and of users of the property.” to preamble of Intellectual Property KA.

How incorporated: Added

Why not incorporated:

Date considered: June 13

Feedback comment: Intellectual Property KU: KA CS Core LOs 2 and 3: “These mention legislation. However, a related aspect is court decisions involving intellectual property. So I suggest replacing “legislation” in Items 2 and 3 with “legislation and legal decisions.” In general, court cases are playing a large role, so I suggest working them into the SEP section at least a little more.”

How incorporated: Done, and also combined these LOs that only differed by a word.

Why not incorporated:

Date considered:
Feedback comment: IP KU: CS Core LO 5: change to “Be able to evaluate whether a use of copyrighted material is likely to be fair use?”

How incorporated: done

Why not incorporated:

Date considered: June 13

Feedback comment: IP KU Preamble: Illustrative learning outcome CS Core 1: “Interpret the intent and implementation of software licensing”. If I understand it correctly, software licenses are not based on copyrights, patents, trademarks, or trade secrets, but on a contract between the company that owns the software and the user. So maybe add a sentence “Moreover, property right are also often protected by user licenses.” as the penultimate sentence in the opening paragraph.

How incorporated: Added

Why not incorporated:

Date considered: June 13

Feedback comment: Privacy and Civil Liberties KU: “Privacy has interpersonal, organizational, business, and government components. I’d like to see a more detailed introduction here to acknowledge the different aspects of this issue.”

How incorporated: Added to end of preamble: Complicating matters further, privacy also has interpersonal, organizational, business, and governmental components.”

Why not incorporated:

Date considered: June 13
Feedback comment: Add examples of privacy directives (GDPR and HIPAA) to existing KA core topics in Privacy and Civil Liberties

How incorporated: Done

Why not incorporated:

Date considered: June 13

Feedback comment: Prof Comm CS Core topic 4: add different stakeholders such as customers, leadership, or the general public.

How incorporated: added

Why not incorporated:

Date considered: June 13

Feedback comment: Prof Comm CS Core topic 5: add and following effective practices when producing collaborative communications.

How incorporated: added

Why not incorporated:

Date considered: June 13
Feedback comment: History preamble: This is just one reason the history of computing is taught. Suggestions: (1) Start the paragraph with the third sentence. (2) Eliminate the current first sentence, or integrate it into the third sentence.

How incorporated: (1)

Why not incorporated:

Date considered: June 13

Feedback comment: History KA Core Topic 1: add “human-calculated number tables,”

How incorporated: added

Why not incorporated:

Date considered: Guess when?

Feedback comment: History KA Core Topic 2: add “computer companies such as IBM,”

How incorporated: added

Why not incorporated:

Date considered: you’ll never guess.

Feedback comment: History KA Core Topic 3: add software (after hardware)

How incorporated: added
Why not incorporated:

Date considered: June 13 again

Feedback comment: History KA Core LO 2: Technological innovation is driven not only by individuals but also by organizations. This has been particularly true of computing. Suggestion: rewrite this as “Identify the contributions of several pioneering individuals or organizations (research labs, computer companies, government offices) in the computing field.”

How incorporated: added

Why not incorporated:

Date considered: same day

Feedback comment: History KA core LO 3: Identifying something as “first” can be historically problematic because it is highly dependent upon definitions (what exactly qualifies as an “operating system”?), how well known something is, and how influential it is. So instead of “real first” I suggest language like “seminal” or “early and influential”.

How incorporated: changed “first” to “seminal”

Why not incorporated:

Date considered: June 13

Feedback comment: Economies of Computing KA Core Topic 1: I suggest including “network effects” either as part of this first item, or as its own item. Network effects have been very important in the growth and dominance of many high-tech companies.

How incorporated: added
Why not incorporated:

Date considered: June 13

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Feedback comment: Security preamble: One thing missing from this section is any mention of critical sector security issues, e.g., computer-based attacks on the electrical grid.

How incorporated: added

Why not incorporated:

Date considered: June 13

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Feedback comment: Preamble: rewording of paragraph with codes of conduct

How incorporated: Done

Why not incorporated:

Date considered: June 14!

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Feedback comment: Add “Introduction to traditional ethical frameworks (consequentialism, deontology, contractarianism, virtue ethics, ethics of care) and their use for analyzing an ethical dilemma” to KA Core topics of Ethical Frameworks KU

How incorporated: Added

Why not incorporated:

Date considered: June 14
Feedback comment: Add two LOs to Ethical Methods KU:

1. Discuss the advantages and disadvantages of traditional ethical frameworks
2. Analyze ethical dilemmas related to the creation and use of technology from multiple perspectives using ethical frameworks

How incorporated: added

Why not incorporated:

Date considered: June 14

Feedback comment: Professional Ethics KU, CS Core topic 5: replace “as well as ethical confidentiality of cybersecurity professionals” with “warranty, negligence, strict liability, ethical approaches to security vulnerability disclosures”

How incorporated: done

Why not incorporated:

Date considered: June 14

Feedback comment: Add two topics to IP CS Core:

1. Common software licenses (e.g., MIT, GPL and its variants, Apache, Mozilla, Creative Commons)
2. Plagiarism and authorship

How incorporated:

Why not incorporated:

Date considered: June 14
Feedback comment: Multiple changes to KA core topics of IP KU

How incorporated: done

Why not incorporated:

Date considered: June 14

Feedback comment: Add to IP CS Core LO: Identify multiple forms of plagiarism beyond verbatim copying of text or software (e.g., intentional paraphrasing, authorship misrepresentation, and improper attribution

How incorporated: Done

Why not incorporated:

Date considered: June 14

Feedback comment: Add LO to IP (CS Core) “Select an appropriate software license for a given project.”

How incorporated: done

Why not incorporated:

Date considered: June 14

Feedback comment: IP KU: move LO “Interpret the intent and implementation of software licensing.” from KA core to CS core.

How incorporated: done
Why not incorporated:

Date considered: June 14

Feedback comment: IP KU add KA Core LO: Evaluate the use of copyrighted work under the concepts of fair use and the first sale doctrine.

How incorporated: Done

Why not incorporated:

Date considered: June 14

Feedback comment: IP KA Core LO: Identify the goals of the open source movement. -> Identify the goals of the open source movement and its impact on fields beyond computing, such as the right-to-repair movement.

How incorporated: done

Why not incorporated:

Date considered: June 14

Feedback comment: Add LOs to IP KA Core:

1. Critique the use of technical measures of digital rights management (e.g., encryption, watermarking, copy restrictions, and region lockouts) from multiple stakeholder perspectives.
2. Discuss the nature of anti-circumvention laws in the context of copyright protection.

How incorporated: Done
Feedback comment: Privacy & Civil Liberties preamble: add: In addition, the interconnected nature of online communities raises challenges for managing expectations and protections for freedom of expression in various cultures and nations. Technology companies that provide platforms for user-generated content are under increasing pressure to perform governance tasks, potentially facing liability for their decisions.

How incorporated: Done

Feedback comment: PCL KA Core topics: replace: “Ramifications of differential Privacy” with “Conceptions of anonymity, pseudonymity, and identity”

How incorporated: Done

Feedback comment: PCL KA Core topics: add (e.g., end-to-end encryption and differential privacy) to Technology-based solutions for privacy protection (e.g., end-to-end encryption and differential privacy)

How incorporated: done
Why not incorporated:

**Date considered:** June 14

Feedback comment: PCL KA Core topics: add User-generated content, content moderation, and liability

How incorporated: done

Why not incorporated:

**Date considered:** June 14

Feedback comment: PCL CS Core LOs: add Distinguish the concepts and goals of anonymity and pseudonymity.

How incorporated: done

Why not incorporated:

**Date considered:** June 14

Feedback comment: PCL CS Core LOs: add Describe the role of anonymity and pseudonymity in relation to establishing online identity, including the arguments made during nymwars debates.

How incorporated: 

Why not incorporated: Too specific and already covered by prior LO more generally

**Date considered:** June 14
Feedback comment: PCL CS Core LOs: add Summarize cultural differences regarding the nature and necessity of privacy and other civil liberties.

How incorporated: Done

Why not incorporated:

Date considered: June 14

Feedback comment: Security KA Core topic add: Responsibility for security throughout the computing life cycle

How incorporated: added

Why not incorporated:

Date considered: June 14

Feedback comment: Security KA Core topic add: Electronic and Internet-based voting

How incorporated:

Why not incorporated: specific compared to other KA Core topics

Date considered: June 14

Feedback comment: Security CS Core LO add: Distinguish the functioning and potential impacts of different types of malware (e.g., viruses, worms, Trojans).
Feedback comment: Preamble adjusted for multiple comments

How incorporated: adjusted

Why not incorporated:

Date considered: June 14

Feedback comment: This sentence makes it sound like the major challenge is posed by computing systems. It does not acknowledge or note the challenges within the computing profession itself: our notable lack of diversity, in particular, as well as typical interactions and values within our communities (such as the neutrality thesis). This should appear in this introduction. (new computer-based products and platforms pose ever more challenging problems each year)

How incorporated: Adjusted

Why not incorporated:

Date considered: June 14

Feedback comment: I do not understand (in preamble) “Programming assignments built around technical applications such as controlling the movement of a laser during eye surgery by non-computer scientists can help to address the social, ethical and professional impacts of computing.”

How incorporated: removed
Why not incorporated:

Date considered: June 14

Feedback comment: This is the first mention of this issue in this text, and I recommend that it be introduced earlier, as part of the introduction and motivation. (Since 2013 all computing communities have become much more aware, and active, in areas of Justice, Equity, Diversity and Inclusion.)

How incorporated: Moved up in preamble.

Why not incorporated:

Date considered: June 14

Feedback comment: Add topic to Societal Context KU on representation (effects, etc.)

How incorporated: added

Why not incorporated:

Date considered: June 14

Feedback comment: too many KA core topics in Professional Ethics. Suggest to cut Acceptable use policies for computing in the workplace

How incorporated: cut

Why not incorporated:
Feedback comment: Professional Ethics KU: CS Core LO: Determine how to address ethical issues -> Demonstrate how to address ethical issues in specific situations.

How incorporated: done

Why not incorporated:

Feedback comment: Not certain how this connects to the topics above: Describe the philosophical underpinnings of the creation of software and how it informs our decisions of how to use it.

How incorporated: agreed. removed.

Why not incorporated:

Feedback comment: referring to: Not only does data support that diverse teams outperform homogeneous ones, but diverse teams may have prevented egregious technology failures in the headlines such as facial recognition misuse, airbag injuries and deaths. (in IDEA preamble)

comment: This line itself is not problematic, but overall this section and the topics that follow appear to be taking a “diversity for productivity” and a “justice through building technology” stance, which feels tone-deaf to me. Diversity and justice should not be done for productivity, but rather because it is right. Our building software will have less impact than how we treat our colleagues and peers.

How incorporated: reworded IDEA preamble
Why not incorporated:

Date considered:

Feedback comment: IDEA CS Core Topic 6: remove “via the software they create” from “How computing professionals, via the software they create, can influence and impact justice, diversity, equity, and inclusion both positively and negatively”

How incorporated: Changed to “How computing professionals can influence and impact diversity, equity, inclusion, and accessibility both positively and negatively, not only through the software they create.”

Why not incorporated:

Date considered:

Feedback comment: Add to preamble: Additionally, it is the educator’s responsibility to impress upon students that this area is just as important - in ways more important - than technical areas. The societal, ethical, and professional knowledge gained in studying topics in this knowledge area will be used throughout one’s career and are transferable between projects, jobs, and even industries, particularly as one’s career progresses into project leadership and management.

How incorporated: added

Why not incorporated:

Date considered: June 14

Feedback comment: (via multiple channels): Make some History CS Core

How incorporated: 1 hour in CS Core
Feedback comment: Incorporate team communication and conflict resolution in Professional Communication

How incorporated: CS Core topic and LO added

Why not incorporated:

Date considered: Spring 2023

Feedback comment: (via multiple channels) Change Professional Communication to just Communication

How incorporated: done

Why not incorporated:

Date considered: June 14

Feedback comment: Social Context: Two comments. (1) Computing affects society, but society also affects computing. It would be nice to mention that somewhere in this section (although I’m not sure exactly where). (2) Computing systems are often part of a large technical and sociotechnical system. Being able to see a computer system not only as a system itself, but also as part of larger systems (both technical and sociotechnical) is an important part of the social context.

How incorporated: incorporated into social context preamble

Why not incorporated:
Date considered: June 14

Feedback comment: SEP issues should be incorporated into the curriculum from year 1 - include in preamble and course packagings.

How incorporated: Included in preamble and course packagings

Why not incorporated:

Date considered: June 14

Feedback comment: Sustainability should include carbon footprint: data centres, blockchain impact, etc. AND sustainability goals

How incorporated: Incorporated into CS Core topics (existing)

Why not incorporated:

Date considered: June 14

Feedback comment: “Global and cultural competence” is listed in competency (CS Core) outcomes but lightly discussed in the Knowledge breakdown (as KA Core only)

How incorporated: Changed SEP Competency Specification Task 7. also updated competency document.

Why not incorporated:

Date considered: June 14
Feedback comment: Policies and laws - International and local laws and how they intersect

How incorporated: Added KA Core topic and learning outcome

Why not incorporated:

Date considered: June 14

Feedback comment: Strengthen accessibility in IDEA KU

How incorporated: preamble, topics, learning outcomes slightly revised to strengthen accessibility.

Why not incorporated:

Date considered: June 14

Feedback comment: Not every computing grad needs to know philosophical underpinnings of IP

How incorporated: moved relevant topic and learning outcome from CS Core to KA Core.

Why not incorporated:

Date considered: June 14

Feedback comment: "As a discipline, we tend to overestimate consequentialism by emphasizing benchmarks and other empirical data. It is really important that this KA challenge this assumption, emphasizing rights, justice, empathy, and the tradeoffs inherent to the social contract. It’s really necessary to address that here (i.e., it’s not just about outcomes!) as part of the movement toward integrating the JEDI themes"
How incorporated: Edited KA Core Topic 9 in Ethical Analysis KU

Why not incorporated:

Date considered: June 14

 Feedback comment: "This line itself is not problematic, but overall this section and the topics that follow appear to be taking a “diversity for productivity” and a “justice through building technology” stance, which feels tone-deaf to me. Diversity and justice should not be done for productivity, but rather because it is right. Our building software will have less impact than how we treat our colleagues and peers."

How incorporated: Edited preamble of IDEA

Why not incorporated:

Date considered: June 14