

UNIVERSITY OF ALASKA FAIRBANKS
Student Learning Outcomes Assessment Plan
Bachelor of Science in Computer Science
 College of Engineering and Mines
 2021

Expanded Statement of Institutional Purpose	Intended Objectives/Outcomes	Assessment Criteria and Procedures	Implementation (what, when, who)
MISSION STATEMENT: To provide quality education consistent with the requirements of the Computing Accreditation Commission of ABET and the recommendations of the UAF Computer Science Industry Advisory Board, which is responsive to the needs of individual students and the diverse population of Alaska. GOAL STATEMENT: The faculty of the Department of Computer Science at UAF provides a positive learning environment that enables students to pursue their goals in an innovative program that is rigorous, challenging and supportive. The B.S. program develops practical skills by emphasizing hands-on experience in the design, implementation, and validation of computer systems in an environment that fosters and encourages innovation and creativity. This approach builds the foundation for the following program educational objectives: 1. Breadth: Graduates will utilize their broad education emphasizing computer science to serve as the foundation for productive careers in the public or private sectors, graduate education, and lifelong learning.	1: Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	A1 - Data structure A2 - Big O Iterative A3 - Big O Recursive B1 - Problem complexity	(Details are in CS Assessment Matrix, part of CS annual Assessment Report for ABET.) A1-3: Fall 2021, CS 411 B1: Fall 2021, CS 411
	2: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.	B2 - Abstraction C1 - Design algorithm C3 - System diagram	B2: Fall 2021, CS 411 C1: Fall 2021, CS 411 C3: Spring 2023, CS 372
	2.a: Implement	I1 - Unit tests I2 - Optimize performance I3 - Development process	I1: Fall 2023, CS 311 I2: Fall 2023, CS 301 I3: Spring 2023, CS 472
	2.b: Evaluate	C2 - Measure performance G1 - Framework impact G2 - Global impact E4 - Security issues	C2: Fall 2023, CS 301 G1: Fall 2021, CS 371 G2: Spring 2023, CS 472 E4: Spring 2023, CS 321
	2.c: Requirements	B3 - Requirements	B3: Spring 2022, CS 372
	3: Communicate effectively in a variety of professional contexts.	F1 - White paper F2 - In-person presentation F3 - Technical summary F4 - Developer documentation F5 - Video presentation D7 - Group presentation	F1: Fall 2023, CS 471 F2: Spring 2023, CS 321 F3: Fall 2022, CS 471 F4: Fall 2023, CS 372 F5: Spring 2024, CS 331 D7: Spring 2024, CS 472
	4: Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.	E1 - Apply ethics E2 - Software license E3 - Ethical decisions	E1: Fall 2022, CS 371 E2: Fall 2023, CS 371 E3: Spring 2022, CS 472

2. Depth: Graduates will apply the fundamental knowledge that is prerequisite for the practice of and/or advanced study in computer science. 3. Professional Skills: Graduates will apply skills for clear communication, effective teamwork, professional attitudes and ethics to succeed as a professional.	5: Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.	D3 - Group project D5 - Group meetings D7 - Group presentation	D3-7: Spring 2024, CS 472
	6: Apply computer science theory and software development fundamentals to produce computing-based solutions.	A1 - Data structure B1 - Problem complexity B2 - Abstraction C1 - Design algorithm I3 - Development process	A1: Fall 2021, CS 411 B1, B2: Fall 2021, CS 411 C1: Fall 2021, CS 411 I3: Spring 2023, CS 472