SENG Specialization Updates for Summer 2023

The specializations available to Software Engineering students will be changing effective May 2023 to reflect new and updated courses, as well as courses that are no longer offered. Here is a summary of the upcoming changes, which include course additions, deletions, and group modifications.

### Specializations as of December 2022

- **Data mining and analysis, artificial intelligence, and machine learning**
  - **Group 1**
    - ECE 470 - Artificial Intelligence, OR
    - ECE 485 - Data Analysis and Pattern Recognition
    - SENG 474 - Data Mining
  - **Group 2**
    - CSC 322 - Logic and Programming
    - CSC 402 - Systems for Massive Datasets
    - CSC 412 - Computing for Cognitive Augmentation
    - CSC 427 - Advanced Topics in Bioinformatics
    - CSC 428 - Computational Biology Algorithms
    - ECE 471 - Computer Vision

- **Cyber-physical and smart systems**
  - **Group 1**
    - CSC 462 - Distributed Computing
    - ECE 460 - Control Theory and Systems I
    - ECE 461 - Design and Analysis of Computer Networks
  - **Group 2**
    - CSC 327 - Introduction to Artificial Intelligence
    - CSC 403 - Optimization for Machine Learning
    - CSC 405 - Large-Scale Optimization
    - CSC 412 - Computing for Cognitive Augmentation
    - CSC 427 - Advanced Topics in Bioinformatics
    - ECE 471 - Computer Vision

- **Cybersecurity and privacy**
  - **Group 1**
    - CSC 429 - Cryptography
    - ECE 448 - Cyber-System Security
    - SENG 460 - Practice of Information Security and Privacy
    - SENG 461 - Network Security
  - **Group 2**
    - CSC 463 - Wireless and Mobile Networks
    - CSC 464 - Overlay and Peer-to-Peer Networking
    - ECE 467 - Switching, Network Traffic and Quality of Service
    - ECE 462 - Design and Analysis of Computer Networks

- **Performance and scalability**
  - **Group 1**
    - CSC 462 - Distributed Computing
    - CSC 454 - Concurrency
    - ECE 457 - Parallel and Cluster Computing
    - SENG 462 - Distributed Systems and the Internet - No Longer Offered
    - SENG 468 - Software System Scalability
    - SENG 475 - Advanced Programming Techniques for Robust Efficient Computing
  - **Group 2**
    - CSC 454 - Fault Tolerant Computing

### Changes effective Summer 2023

#### Group 1:
- Add CSC 431 Machine Learning Theory

#### Group 2:
- Add
  - CSC 402 Systems for Massive Datasets
  - CSC 412 Computing for Cognitive Augmentation
  - CSC 427 Advanced Topics in Bioinformatics
  - CSC 428 Computational Biology Algorithms
- Remove CSC 322

#### Group 1:
- Add CSC 467 Switching, Network Traffic and Quality of Service

#### Group 2:
- Add ECE 448 Cyber-System Security
- Remove CSC 454

#### Group 1:
- Add ECE 406 Applied Cryptography (students can take either ECE406 OR CSC429, but not both)
- Remove SENG 461

#### Group 1:
- Remove SENG 462
- Move ECE 457 to Group 2

#### Group 2:
- Add
  - CSC 402 Systems for Massive Datasets
  - ECE 463 Design and Analysis of Computer Networks
  - CSC 467 Switching, Network Traffic and Quality of Service
- Remove CSC 454
Note: Some of the new courses noted above will not be added to the UVic Calendar until September 2023.

- CSC 402 - Systems for Massive Datasets: May 2023 calendar
- CSC 412 - Computing for Cognitive Augmentation: September 2023 calendar
- CSC 413 - Designing Creativity Support Tools: September 2023 calendar
- CSC 427 - Advanced Topics in Bioinformatics: September 2023 calendar
- CSC 428 - Computational Biology Algorithms: May 2023 calendar
- CSC 431 - Machine Learning Theory: September 2023 calendar
- ECE 406 - Applied Cryptography: September 2023 calendar