CSE 460

Software Analysis & Design

Course Objectives

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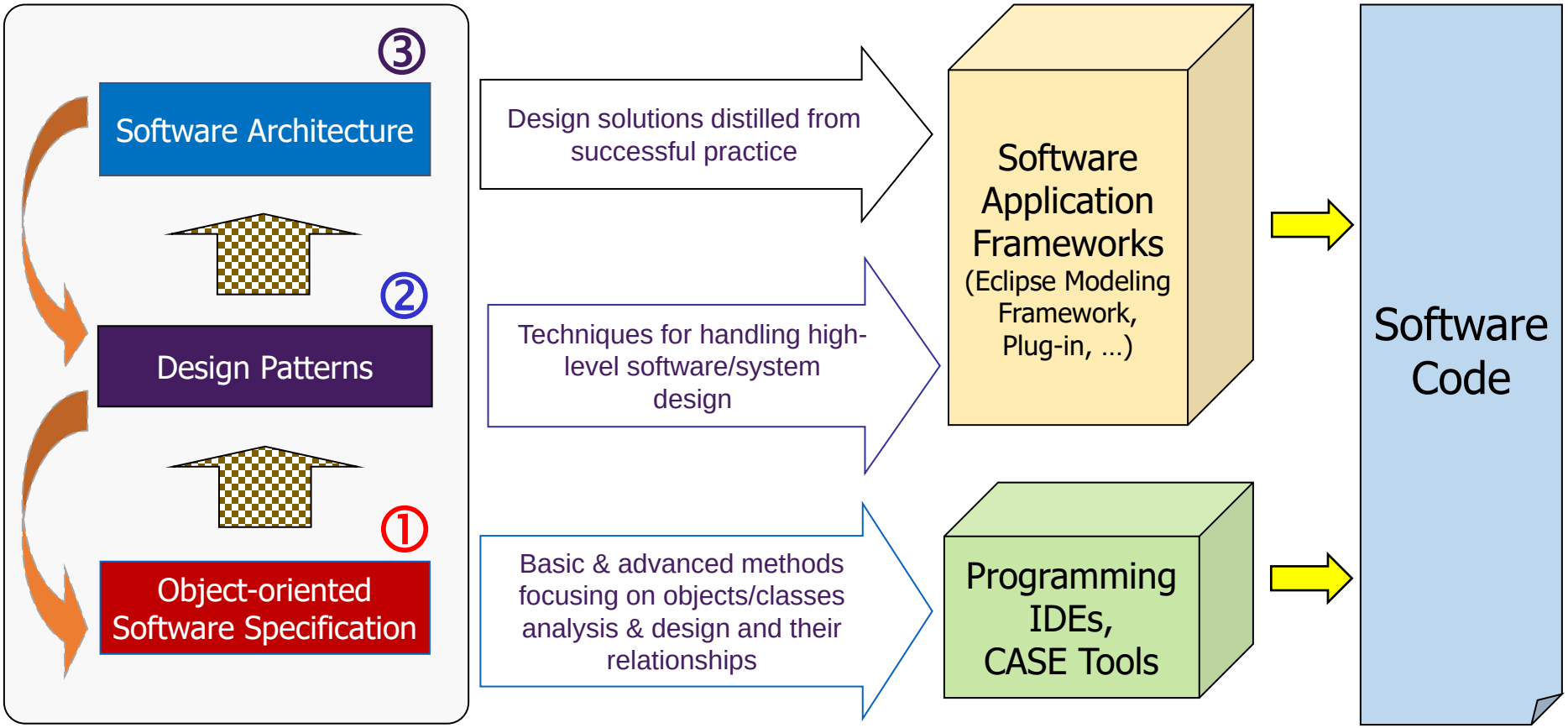
CSE 460: Software Analysis and Design

School of Computing, Informatics and Decision Systems Engineering
Fulton Schools of Engineering

Arizona State University, Tempe, AZ, USA

Course Description (CSE/ASU catalog)

- Requirements analysis and design; architecture and patterns; representations of software; formal methods; component-based development; Prerequisite: CSE 360 or equivalent.



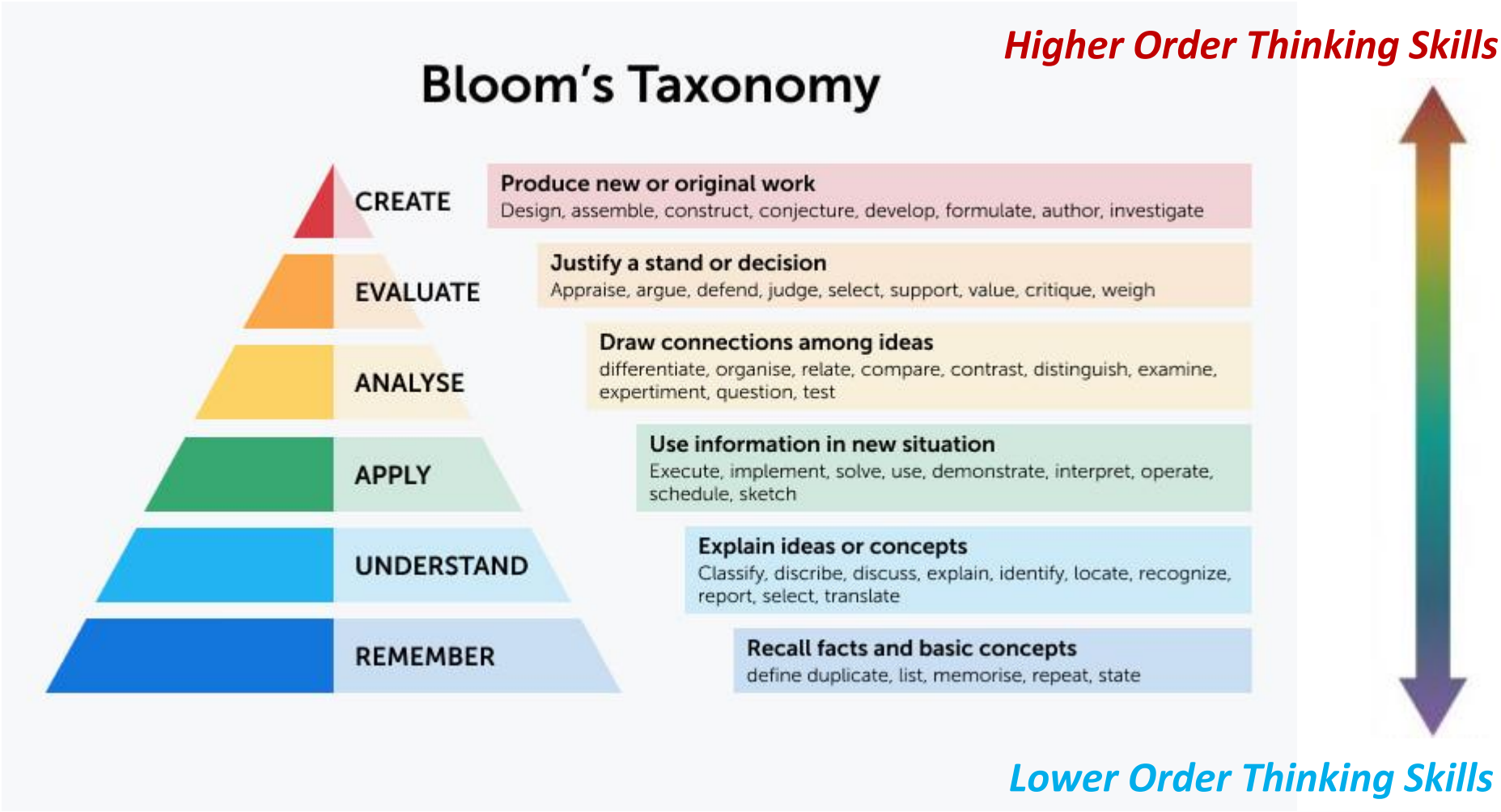
CSE-460 Course Objectives

1. The student can recognize and understand models developed using object-oriented principles including abstraction, inheritance, encapsulation, and modularity.
2. The student can construct UML models including class, collaboration, object, sequence, statechart, and use-case diagrams.
3. The student can recognize and understand models using structured analysis and design techniques including structural partitioning and control.
4. The student can construct structured models including data/control flow diagrams, state transition diagrams, & data dictionaries.
5. The student can use UML-based software analysis and modeling tools Astah and IDES such as Eclipse.

CSE-460 Course Objectives (cont.)

6. The student understands the role of design patterns in the development of software designs.
7. The student can develop and modify designs using design patterns.
8. The student understands the difference between different software architectural styles.
9. The student can construct a software architecture using the concepts of quality attributes, architectural styles, and architectural elements.
10. The student can distinguish between software reliability and software safety.
11. The student can analyze the situations where software safety analysis is applicable to software design.

Bloom's Digital Taxonomy



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