CROSSWALK

The Foundations of Computer Science - TExES 241 Prep course
addresses all 106 competencies in the four domains and
13 competency groups of the TExES 241 list.

In the left column are the **TExES** elements,
on the right the corresponding Foundations units.

WeTeach_CS

TExES 241 Computer Science Competencies

Foundations of
Computer Science
TExES 241 Prep

Domain I — Technology Applications Core

Course Elements

Competency 001	The computer science teacher knows technology terminology and concepts; the appropriate use of hardware, software and digital files; and how to acquire, analyze and evaluate digital information.	Week 6 - Hardware, Software, Networking, Use of Electronic Resources and Internet
Competency 002	The computer science teacher knows how to use technology tools to solve problems, evaluate results and communicate information in a variety of formats for diverse audiences.	Week 6 - Use of Application Software
Competency 003	The computer science teacher knows how to plan, organize, deliver and evaluate instruction that effectively utilizes current technology for teaching the Technology Applications Texas Essential Knowledge and Skills (TEKS) to all students.	Week 6 - Use of Instructional Technology

Domain II — Program Design and Development

Competency 004	The computer science teacher knows problem-solving strategies and different procedures for program design.	Week 1 - Software Design
Competency 005	The computer science teacher knows procedures for software development and implementation.	Week 1 - Software Development
Competency 006	The computer science teacher knows computer science terminology and concepts and the characteristics of different programming languages and paradigms.	Week 1 - Object Oriented Programming Concepts, Programming Languages

CROSSWALK (cont)

Domain III — Programming Language Topics

Competency 007   **The computer science teacher correctly and efficiently uses data types, data structures and functions in the development of code.**

Week 1 - Data Types, Number Bases
Week 4 - Arrays (1D and 2D), Stacks, Queues, Linked Lists, Binary Trees, Graphs

Competency 008   **The computer science teacher correctly and efficiently uses statements and control structures in the development of code.**

Week 2 - Sequential Processing, Operators, Methods and Parameters, Conditional Processing
Week 3 - Iterative Processing - Loops and Recursion

Competency 009   **The computer science teacher knows how to construct, compare and analyze various algorithms.**

Week 5 - OOP (Class Design, Object Arrays, Abstract Classes, Interfaces), Algorithm Analysis (Big O), Searches, Sorts

Domain IV — Specialized Topics

Competency 010   **The computer science teacher knows discrete mathematics topics relevant to computer science.**

Week 7 - Discrete Mathematics

Competency 011   **The computer science teacher knows digital forensics topics.**

Week 7 - Digital Forensics

Competency 012   **The computer science teacher knows robotics topics.**

Week 7 - Robotics

Competency 013   **The computer science teacher knows game and mobile application development topics.**

Week 7 - Game and Mobile App Development