Visual Guide to CIS Emphases

All emphases require students to take **six** additional CIS courses with three at the upper level and meet their User Needs, Analysis and Modeling, Coding and Production, and Design and Interaction requirements while also selecting electives according to the rules below.

All emphases share the same Core and Capstone:

CIS 100/115: IT & Society
CIS 112: Database Concepts
CIS 220: Object-Oriented Programming
CIS 271: Digital and Social Media
CIS 400: Service learning Project Management

Computer Science

MTH 151: Calculus I

MTH 152: Calculus II

MTH 211: Foundations of Higher Mathematics

Take One of:
CIS 230: Artificial Intelligence
CIS 241: Data Mining

CIS 320: Data Structures

Take One of:
MTH 311: Introduction to Number Theory
MTH 330: Introduction to Graph Theory
MTH 361: Discrete Mathematical Structures

Take One of:
MTH 170: Applied Linear Algebra
MTH 217: Linear Algebra

Digital Media

Take Three of:
CIS 265: Digital Video
CIS 275: Web Design
CIS 361: Digital Imaging
CIS 375: Advanced Web and Mobile Development

Data Science

Take Two of:
CIS 230: Artificial Intelligence
CIS 245: Info Visualization
CIS 343: Adv. Data Analysis: Simulations
CIS 345: Adv. Data Analysis: Networks

Take One of:
MTH 205: Probability & Statistics
MTH 125: Introductory Statistics
MTH 245/BIO 245: Applied Stats for Life Sciences

CIS 241: Data Science

Web and Mobile

CIS 275: Web Design

Take Two of:
CIS 245: Information Visualization
CIS 280: Scripting Languages
CIS 375: Advanced Web and Mobile Development

Interaction Design

CIS 301: Human Computer Interaction

PSY 101: Elementary Psychology I

Take Two of:
CIS 105: Game Design and Development
CIS 245: Information Visualization
CIS 275: Web Design
CIS 375: Advanced Web and Mobile Development

Take One of:
ART 108: 2-D & 3-D Design
ART 112: Beginning Drawing

Legend:
- CIS
- MTH
- ART
- PSY

Specific offerings of the topics courses CIS 297 and CIS 397 may also count towards various CIS emphases.