Visual Guide to the CIS Major: Computer Science Emphasis

Catalog Text: Students complete the requirements of the CIS major, with one of their electives being CIS 320 and one being either CIS 241 or CIS 230. Additionally, students must take MTH 151, MTH 152, MTH 211, one of MTH 170 or MTH 217 and one of MTH 311, MTH 330, or MTH 361. Some offerings of CIS 297 or CIS 397 may also be designated as counting towards the Computer Science emphasis.

Introductory Core

- *CIS 100/115: IT & Society*
- *CIS 112: Database Concepts*
- *CIS 220: Object-Oriented Programming*
- *CIS 271: Digital and Social Media*

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

Electives

In addition to taking at least two Computer Science electives, students must complete at least one course in each category shown and at least two at the 300-level or higher.

User Needs
CIS 301: Human Computer Interaction
CIS 310: Systems Analysis

Coding and Production
CIS 265: Digital Video
CIS 275: Web Design
CIS 280: Scripting Languages
CIS 320: Data Structures
CIS 343: Adv. Data Analysis: Simulations
CIS 345: Adv. Data Analysis: Networks
CIS 361: Digital Imaging
CIS 375: Advanced Web and Mobile Development

Analysis and Modeling
CIS 230: Artificial Intelligence
CIS 241: Data Mining
CIS 245: Information Visualization
CIS 310: Systems Analysis
CIS 320: Data Structures
CIS 335: Information Security
CIS 343: Adv. Data Analysis: Simulations
CIS 345: Adv. Data Analysis: Networks

Design and Interaction
CIS 245: Information Visualization
CIS 265: Digital Video
CIS 271: Digital and Social Media
CIS 275: Web Design
CIS 301: Human Computer Interaction
CIS 361: Digital Imaging
CIS 375: Advanced Web and Mobile Development

CIS Elective
Any CIS course at any level may be used here.

CIS Elective
Any CIS course at any level may be used here.

Math Courses

- **MTH 151: Calculus I**
- **MTH 152: Calculus II**
- **MTH 211: Foundations of Higher Mathematics**
- **MTH 170: Applied Linear Algebra**
  MTH 217: Linear Algebra
- **MTH 311: Introduction to Number Theory**
  MTH 330: Introduction to Graph Theory
  MTH 361: Discrete Mathematical Structures

Capstone Experience

- *CIS 400: Service-Learning Project Management*

Key

- : Required Course
- : Select One Course
- : Any CIS Course