College of Social
& Behavioral Sciences

B.S. Information Science & Technology
2020-21 Catalog Checklist

UA GENERAL EDUCATION

COMPOSITION: (Complete one pair)
ENGL 101 & ENGL 102 or   &
ENGL 107 & 108 or   &
ENGL 109H

MATH:
MATH 113, MATH 116, MATH 122B, or higher:

TIER ONE: (Select two courses from each)
Individuals and Societies (150):

_____

_____

Natural Sciences (170):

_____

_____

Traditions & Cultures (160):

_____

_____

TIER TWO: (Select one course from each)
Arts: _____
Humanities: _____
Individuals & Societies: _____
Diversity (can be fulfilled with GE course):

2nd Semester of SECOND LANGUAGE:

INFORMATION SCIENCE & TECH MAJOR

ISTA CORE: (Take All Five)
ISTA 100: Great Ideas of the Information Age
ISTA 116^: Statistical Foundations for the Info. Age
ISTA 130*: Computational Thinking and Doing
ISTA 131a: Dealing with Data
ISTA 161: Ethics in a Digital World

^ ISTA 116 requires MATH 107 or 112.
* CSC 110 approved substitute for ISTA 130
a ISTA 131 requires ISTA 130.

The rest of the Core can be taken in any order!

RESEARCH METHODS: (Take One)
ESOC 302: Quantitative Methods for the Digital
Marketplace

*INTENSIVE COMPUTING: (Take Five)
_____
_____
_____
_____
_____

*Please note that while students can double-dip up to four major
courses from other departments, but at least two Intensive Computing
courses MUST have an ISTA / ESOC / LIS prefix.

COMPUTATIONAL ARTS & MEDIA: (Take One)
_____

SOCIETY: (Take One)
_____

**ENGAGEMENT, INDIVIDUAL STUDIES,
& PROJECTS: (Take One)**
ESOC 480: Digital Engagement
ISTA/INFO 392/492: Directed Research
INFO 493: Internship
ISTA/INFO 499: Independent Study

SENIOR THESIS: (Take One)
ISTA 498: Senior Capstone (3 units)

MINOR or 2nd MAJOR

_____

_____

_____

_____

_____

_____

ELECTIVES
(needed to reach 120/42 UD units)

_____

_____

_____

_____

Total Units: _____ / 120
Upper Division Units: _____ / 42
University Level: _____ / 56
Minimum GPA of 2.0 is required for graduation

B.S. Information Science & Technology
2020-21

It is recommended that students complete ISTA 130 and 116 before taking Intensive Computing (IC) coursework. Some coursework also requires ISTA 131 or 350.

INTENSIVE COMPUTING (IC): (Take Five)

HUMAN-COMPUTER INTERACTION
ISTA 352: Images: Past, Present, Future
- *Can serve as IC or CA. Not both. Not currently offered.*
ISTA 416/516: Intro. to Human Computer Interaction
- *Can serve as IC or CA. Not both*
ISTA 320: Data Visualization
- *Requires ISTA 116 or ESOC 214*

APPLIED DATA SCIENCE
ISTA 321: Data Mining
- *Requires ISTA 116 or ESOC 214*
ISTA 331: Principles and Practices of Data Science
- *Requires ISTA 131 and ISTA 116*
ESOC 414: Computational Social Science
- *Requires ISTA 116 or ESOC 214. Not currently offered.*

DEALING WITH BIG DATA
ISTA 322: Data Engineering
-*Requires ISTA 130 or CSC 110 or ECE 175*
ISTA 429: Applied Cyberinfrastructure Concepts
- *No pre-requisites. Second semester programming (CSC 120 or ISTA 131) recommended but not required. Typically offered in Fall only.*
LIS 470: Database Development and Management

PROBABILITY & INFERENCE
ISTA 311: Foundations of Information and Inference

- *Requires ISTA 130 and ISTA 116*
ISTA 410: Bayesian Modeling
- *Requires MAT 223 and MATH 313 and MATH 464 and (ISTA 350 or CSC 345) or ISTA 421 or consent of instructor*

NEW!
ISTA 431: Data Warehousing and Analytics in the Cloud
ISTA 497: Biodiversity Informatics

PROGRAMMING FOUNDATIONS
ISTA 350: Programming for Informatics Applications
- *ISTA 131 and 116 required.*

DATA SCIENCE & MACHINE LEARNING METHODS
ISTA 355: Intro to Natural Language Processing
- *Requires ISTA 131.*
ISTA 439: Statistical Natural Language Processing
ISTA 455: Applied Natural Language Processing
- *Requires 350. Not currently offered.*
ISTA 457: Neural Networks
- *Requires 350 or CSC 345 or ECE 275 or NSCS 344.*
- ISTA 421/521: Introduction to Machine Learning
- *Requires Calc I and II, Linear Algebra (MATH 313), and ISTA 311, or consent of instructor. **Typically offered in Fall only***

ALGORITHM DEVELOPMENT
ISTA 450/550: Artificial Intelligence ***Typically in Spring only.***
- *Requires ISTA 350, CSC 245, MATH 243, or consent of instructor*

GAME DEVELOPMENT & VIRTUAL REALITY
ISTA 424: Virtual Reality
- *ISTA 350 or CSC 210 required. Can serve as IC or CA. Not both*
ISTA 425: Algorithms for Games
- *ISTA 350 or CSC 210 required. Can serve as IC or CA. Not both*
ISTA 451/551: Game Development
- *ISTA 350 or CSC 210 required. Can serve as IC or CA. Not both*

NEW!
ISTA 330: Advanced Web Design
- *Requires ISTA 230 and ISTA 130 or CSC 110. Can be CA or IC. Not both.*
- ISTA 495: Special Topics

OTHER COURSEWORK AVAILABLE FOR INTENSIVE COMPUTING REQUIREMENT*
*Students can double-dip up to four major courses from other departments, but at least two Intensive Computing (IC) courses MUST be from the School of Information (have an ISTA / ESOC / LIS prefix).

MATH 129: Calculus II
MATH 313: Linear Algebra
- *Requires MATH 129*
GEOG 417: Geographic Information Systems for Natural and Social Sciences
CSC 120/CSC 127B: Introduction to Computer Programming
- *Requires CSC 110/127A*
CSC 337: Web Programming
- *Requires CSC 110 or ISTA 130*

Computer Science majors only:
CSC 252: Computer Organization
- *Requires CSC 210. Must be CSC major*
CSC 245: Introduction to Discrete Structures
- *Requires CSC 120. Must be CSC major*
CSC 345: Analysis of Discrete Structures
- *Requires CSC 245 and 210. Must be CSC major*
CSC 335: Object-Oriented Programming and Design
- *Requires CSC 210. Must be CSC major*

COMPUTATIONAL ARTS & MEDIA (CA): (Take One)

ISTA 230: Introduction to Web Design & Development
ISTA 251: Introduction to Game Design
ISTA 301: Computing and the Arts
ISTA 302: Technology of Sound
ISTA 303: Introduction to Creative Coding
- Requires ISTA 130 or CSC 110 or ECE 175. Can serve as IC or CA. Not both.
ISTA 330: Advanced Web Design
- Requires ISTA 230. Can serve as CA or IC. Not both.
ISTA 401: Designing Installations
ISTA 403: Advanced Creative Coding *Not offered*
ART/FA 432A: Interactivity
ART/FA 437A: Foundation Digital 3D Modeling, Rendering and Rapid Prototyping
ESOC 300: Digital Storytelling and Culture
ESOC 340: Information, Multimedia Design, and the Moving Image
LING 388: Language and Computers

SOCIETY: (Take One)

ESOC 313: Digital Discourse and Identity
ESOC 314: Theories of New Media
ESOC 315: From Publishing to Papyrus
ESOC 316: Digital Commerce
ESOC 317: Digital Crime
ESOC 318: Disruptive Technologies
ESOC 319: Instructional Technologies
ESOC 325: Contemporary Literature and Digital Media
ESOC 330: Digital Dilemmas
ESOC 477: Information Security
ESOC 478: Science Information and its Presentation
ESOC 495: Special Topics