Information Science and Technology
Interdisciplinary Minor program of study
istec.colostate.edu

The **Information Science & Technology minor** (IS&T) is designed to serve students seeking an instructional program that provides a broad foundation in information technology, but not seeking to earn a full degree in a specific I.T.-related field. As with all minors at CSU, a minimum of 12 credits must be **upper division** (3XX or higher) courses.

The 21-credit minor consists of one **required course** (3 credits) and six **elective courses** (18 credits minimum). The courses are offered by four departments in three CSU colleges:

- Computer Information Systems, College of Business
- Computer Science, College of Natural Sciences
- Journalism and Media Communication and English, College of Liberal Arts

Contact **Ananda Luttet** to add the minor (Ananda.Luttet@colostate.edu).

*Note: Majors in Computer Information Systems, Computer Science, or Electrical and Computer Engineering may NOT enroll in the minor.*

### Prerequisite
*Complete one before declaring the minor:*

- BUS 150 Business Computing Concepts and Applications* 3 credits
  - Test-out option available at the beginning of each term
- CS 110 Personal Computing* 4 credits

### Required Course
- JTC 413 New Communication Technologies and Society* 3 credits

### Elective Courses *Six of the following:*
- CIS 210 Information Technology in Business 3 credits
- CIS 240 Application Design and Development 3 credits
- CIS 301 End User Computing 3 credits
- CIS 340 Advanced Application Design and Development 3 credits
- CIS 355 Business Database Systems 3 credits
- CIS 410 Web Application Development 3 credits
- CS 150 Interactive Programming with Java 4 credits
- CS 161 Object-Oriented Problem Solving 4 credits
- CS 163 Java (CS1) No Prior Programming 4 credits
- CS 164 Java (CS1) Prior Programming 4 credits
- CT 310 Web Development 4 credits
- CT 320 Network and System Administration 4 credits
- JTC 300 Professional and Technical Communication* 3 credits
- JTC 335 Digital Photography* 3 credits
- JTC 372 Web Design and Management* 3 credits
- JTC 417 Information Graphics 3 credits
- CO 402 Principles of Digital Rhetoric and Design 3 credits

*Also offered online

For course overrides, please contact that department’s adviser:

<table>
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<tr>
<th>Academic adviser for the minor and Journalism (JTC) course overrides</th>
<th>Computer Information Systems (CIS) course overrides</th>
<th>Computer Science (CS and CT) course overrides</th>
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<tbody>
<tr>
<td>Ananda Luttet, Program Manager Journalism and Media Communication Clark C242/970-491-5484 <a href="mailto:Ananda.Luttet@colostate.edu">Ananda.Luttet@colostate.edu</a></td>
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Elective Courses: Six courses required; at least nine credits must be upper division. Pay attention to required prerequisites and plan carefully—prerequisites will not be waived unless noted.

### Programming Courses

- **CS 150 Interactive Java Programming** – Introduction to object-oriented programming with Java; problem-solving, creating applets for Web pages, and graphical user interfaces. *Prerequisite: 1 credit MATH.*

- **CS 161 Object-Oriented Problem Solving** – Fundamental object-oriented concepts, inheritance, polymorphism, basic algorithms, linked lists, assertions, recursion, induction, counting. *Prerequisite: (CS 160 with a minimum grade of C) and (MATH 141, may be taken concurrently or MATH 155, may be taken concurrently or MATH 160, may be taken concurrently).*

- **CS 163 Java No Prior Programming** – Computer programming in Java for students without previous programming experience. Topics include variables, assignment, expressions, operators, booleans, conditionals, characters and strings, control loops, arrays, objects and classes, file input/output, interfaces, recursion, lists, and sorting. *Prerequisite: MATH 124 with a minimum grade of C.*

- **CS 164 Java Prior Programming** – Computer programming in Java for students with limited programming experience. Problem decomposition for good design; expressions, operators, booleans, conditionals, characters and strings, control loops, arrays, objects and classes, file input/output, interfaces, recursion, lists, and sorting. *Prerequisite: MATH 124 with a minimum grade of C.*

### Business and Communication Applications

- **CIS 301 End User Computing** – End user applications in a Graphical User Interface environment including spreadsheet, word processing, and presentation graphics; Internet concepts.

- **CIS 355 Business Database Systems** – Physical and logical design, implementation, and administration of databases. *Prerequisite: CIS 210.*

- **CT 320 Network and System Administration** – Installation of network and operating system services, management and support; upgrades, security, backups. *Prerequisite: CIS 155 and 156 or CS 253.*

### Specialty Courses

- **JTC 300 Professional and Technical Communication** – Professional writing and presentation skills applied to students' major fields. *Prerequisite: CO 150 or HONR 193.*

- **JTC 335 Digital Photography** – Basic photographic theory and practice using digital camera and image processing technology. *Prerequisite waived.*

- **JTC 417 Information Graphics** – Static and interactive data visualization and information design using charts, graphs, maps and other visual elements. *Prerequisite waived.*

- **CO 402 Principles of Digital Rhetoric and Design** – Advanced study of rhetorical contexts shaping online texts. Includes instruction in coding and digital design.

### Web Design and Development Courses


- **CT 310 Web Development** – Web development languages used to create fully functional dynamic web sites; server and client scripting, database access and security issues. *Prerequisite: CS 220 and CS 165.*

- **CIS 320 Project Management for Information Systems** – Project management concepts including work breakdown structure, estimating, scheduling, tools, and reports. *Prerequisite: CIS 210.*