

Information Science and Technology

Interdisciplinary Minor program of study

istec.colostate.edu

Contact **Ananda Luttet** to add the minor (Ananda.Luttet@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** (300 or higher) courses.

The 21-credit minor consists of **one required course** (3 credits) and **six elective courses** (18 credits minimum). Most elective courses also have prerequisites (see back for details). 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

Note: Majors in Computer Information Systems, Computer Science, or Electrical and Computer Engineering may NOT enroll in the minor. Majors in Journalism and Media Communication may not double-count credits for the major and minor.

Prerequisite Complete one before declaring the minor: credits

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|--|---|
| <input type="checkbox"/> BUS 150 Business Computing Concepts and Applications*
<i>Test-out option available at the beginning of each term</i> | 3 |
| <input type="checkbox"/> CS 110 Personal Computing* | 4 |

Required Course

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|--|---|
| <input type="checkbox"/> JTC 413 New Communication Technologies and Society* | 3 |
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Elective Courses Six of the following:

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|--|---|
| <input type="checkbox"/> CIS 210 Information Technology in Business | 3 |
| <input type="checkbox"/> CIS 240 Application Design and Development | 3 |
| <input type="checkbox"/> CIS 301 End User Computing | 3 |
| <input type="checkbox"/> CIS 340 Advanced Application Design and Development | 3 |
| <input type="checkbox"/> CIS 355 Business Database Systems | 3 |
| <input type="checkbox"/> CIS 410 Web Application Development | 3 |
| <input type="checkbox"/> CS 150 Interactive Programming with Java | 4 |
| <input type="checkbox"/> CS 161 Object-Oriented Problem Solving | 4 |
| <input type="checkbox"/> CS 163 Java (CS1) No Prior Programming | 4 |
| <input type="checkbox"/> CS 164 Java (CS1) Prior Programming | 4 |
| <input type="checkbox"/> CT 310 Web Development | 4 |
| <input type="checkbox"/> CT 320 Network and System Administration | 4 |
| <input type="checkbox"/> JTC 300 Professional and Technical Communication* | 3 |
| <input type="checkbox"/> JTC 335 Digital Photography* | 3 |
| <input type="checkbox"/> JTC 372 Web Design and Management* | 3 |
| <input type="checkbox"/> JTC 417 Information Graphics | 3 |
| <input type="checkbox"/> CO 402 Principles of Digital Rhetoric and Design | 3 |

**Also offered online*

For major restriction overrides, please contact that department's adviser:

Academic adviser for the minor and Journalism (JTC) course overrides:	Computer Information Systems (CIS) course major overrides:	Computer Science (CS and CT) course major overrides:
Ananda Luttet, Program Manager Journalism and Media Communication Clark C242/970-491-5484 Ananda.Luttet@colostate.edu	Tonja Rosales, Undergrad Asst. Director Business Rockwell Hall 110/970-491-5474 Tonja.Rosales@colostate.edu	James Peterson, Counselor and Adviser Computer Science Computer Science Bldg. 274/970-491-7137 James.Peterson@colostate.edu

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.*
- **CIS 210 Information Technology in Business** – Introduction to information systems: the IS profession; hardware, software, and programming; web and database applications; data analysis tools. *Prerequisite: One of CS 160, 161, 163, 260, or 267. CIS 200 is waived.*
- **CIS 240 Application Design and Development** – Software engineering methods including design, implementation, and testing using structured and event-driven techniques, logic, and data structures. *Prerequisite: CIS 210 and one of CS 160, 161, 163, 260, or 267.*
- **CIS 340 Advanced Application Design and Development** – Design and construction of business applications using object-orientation and advanced data structures. *Prerequisite: CIS 240.*

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 and one of CS 160, 161, 163, 260, or 267.*
- **CT 320 Network and System Administration** – Installation of network and operating system services, management and support; upgrades, security, backups. *Prerequisite: CS 155 and CS 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

- **JTC 372 Web Design and Management** – Design, development, and management of World Wide Web content. *Prerequisite waived.*
- **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.*
- **CIS 410 Web Application Development** – Web development techniques and strategies including Active Server Pages using VBScript, JavaScript, ColdFusion; security, web design. *Prerequisite: CIS 355 and CIS 240.*