

# The *Information Science & Technology* Interdisciplinary Minor program of study

The **Information Science & Technology program** (the IS&T Minor) is designed to serve students who are seeking an instructional program that provides a broad foundation in information technology, but are not seeking to earn a full degree in a specific I.T.-related field. As with all minors at Colorado State University, **12 or more credits (of 21 minimum) must be taken in UPPER DIVISION (3XX or higher) courses.**

The 21-credit Minor consists of **ONE required course (3 credits) and SIX elective courses (18+ credits)**. 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 the English Dept., College of Liberal Arts

*Note: Majors in **Computer Information Systems** or **Computer Science** may NOT enroll in the IS&T Minor.*

**Prerequisites:** credits

Complete **one** of the following computer applications courses: 3  
 BUS 150\* -- Business Computing Concepts and Applications  
*(NOTE: BUS 150 has a test-out option in the first week of each term)*

**OR** CS 110 -- Personal Computing 4

**Required Course** (complete either one):

JTC 413\* – New Communication Technologies and Society 3

**OR** JTC 416 – Global Communication Technology (*Summer Session only*) 3

**Elective Courses** – Select any **six** of these courses:

CIS 210 – Information Technology and Business	3
CIS 240 – Program Design and Construction	3
CIS 355 – Business Database Systems	3
CIS 340 – Advanced Application Design and Development	3
CIS 410 – Web Application Design	3
CS 150 – Interactive Java Programming	4
CS 163 – Java (CS1) – <b>No</b> prior programming	4
CS 164 – Java (CS1) – <b>With</b> prior programming	4
CT 310 – Web Development	4
CT 320 – Network and System Administration	4
JTC 300* – Professional and Technical Communication	3
JTC 335 – Digital Photography	3
JTC 372* – Web Design and Management	3
JTC 417 – Information Design and Production	3
CO 402 – Principles of Digital Rhetoric and Design	3

*Courses marked with an \* are also offered online.*

**For course overrides, please contact that department's advisor:**

**For Journalism (JTC) course overrides – please contact:**

**Ananda Luttet**, Program Manager  
 Clark Building C-242, phone 491-5484  
 e-mail: [Ananda.Luttet@ColoState.edu](mailto:Ananda.Luttet@ColoState.edu)

**Academic Advisor for the Minor (see for program admission and advising):**

**Dr. Pete Seel**, Professor  
 Clark Building C-205, phone 491-2030  
 e-mail: [Pete.Seel@ColoState.edu](mailto:Pete.Seel@ColoState.edu)

**For Computer Information Systems (CIS) course overrides:**

**Tonja Rosales**, Undergrad. Assistant Director  
 Rockwell Hall 110, phone 491-5474  
 e-mail: [Tonja.Rosales@ColoState.edu](mailto:Tonja.Rosales@ColoState.edu)

**For Computer Science (CS and CT) course overrides – please see:**

**James Peterson**, Counselor and Advisor  
 Computer Science Bldg. 274, phone 491-7137  
 e-mail: [James.Peterson@ColoState.edu](mailto:James.Peterson@ColoState.edu)

# The *Information Science and Technology* Minor program of study (*the IS&T Minor*)

## Program Prerequisite:

either BUS 150 Business Computing Concepts and Applications or CS 110 Personal Computing

## ONE Required Course:

JTC 413 – New Communication Technologies and Society (lecture – 3 credits)

or JTC 416 – Global Communication Technology (3 cr. lecture and media lab – *offered in Summer Session only*)

Elective Courses (SIX additional courses are required and 12+ of the 21 credits must be upper division courses (3XX or higher): Please take courses in the order listed in each area. Some courses require knowledge and skills acquired in previous classes.

## **Programming Courses**

**CS 150 – Interactive Java Programming (4)** – Introduction to object-oriented programming with Java; problem-solving, creating applets for Web pages, and graphical user interfaces. Prerequisite: Math 117 or 130. **Want to learn Java? Take this course first.**

**CS 163 – Java (CS1) (4) – No prior experience.** Computer programming in Java for students **without** previous programming experience. Prerequisites: Math 118 and 124 with grade of “C” or better. **OR...**

**CS 164 – Java (CS1) (4) – WITH prior experience.** Computer programming in Java for students **with** previous programming experience. Prerequisites: Math 118 and 124 with grade of “C” or better. Taking CS 150 prior to this course is **strongly recommended**. Credit only allowed for *either* CS163 or CS164.

**CIS 210 – Information Technology in Business (3)** -- Introduction to information systems and the I.T. profession; information technology hardware, software, and programming; web and database applications; and data analysis tools.

**CIS 240 – Application Design and Construction (3)** – Software engineering methods including design, implementation, and testing using structured and event-driven techniques, logic, and data structures. Prerequisite is CIS 210 – Information Technology and Business (required course for the minor).

**CIS 340 – Advanced Application Design and Development (3)** – Design and construction of business applications using object-orientation and advanced data structures. Prerequisites: CIS 240 – Application Design and Development and CIS 210 – Information Technology and Business.

## **Business and Communication Applications**

**CIS 355 – Business Database Systems (3)** – Physical and logical design, implementation, and administration of databases. Prerequisite: CIS 210 – Information Technology in Business.

**CT 320 – Network and System Administration (4)** – Installation of network and operating system services, management and support; upgrades, security, backups. Prerequisites for CT 320 are two 1-credit courses: CS 155 – Introduction to Unix (1) and CS 156 – Introduction to C programming I (1).

**Course codes:** CIS is Computer Information Systems, CS and CT courses are offered by Computer Science, and the JTC prefix is used by the Department of Journalism and Media Communication. **To enroll in the IS&T minor please see Dr. Pete Seel in Clark C-205 (in the Dept. of Journalism and Media Communication). Call 970-491-2030 or e-mail: [pete.seel@colostate.edu](mailto:pete.seel@colostate.edu) for an appointment.**

## **Specialty Courses**

**JTC 300 – Professional and Technical Communication (3)** – Professional writing and presentation skills applied to students' major fields. This course will improve your professional and technical writing and formatting skills using computer technology. **May also count toward upper division writing requirement.**

**JTC 335 – Digital Photography (3)** – Basic photographic theory and practice using digital still cameras and digital image processing technology. Assignments include portrait and landscape photography, photojournalism, and time exposures. *The JTC 211 Visual Communication prerequisite is waived for students enrolled in the IS&T Minor.*

**JTC 416 – Global Communication Technology (3)** – A broad-based survey of Internet-based communication technologies and how they might be used for publication and e-portfolio dissemination. Each student will create and publish an e-portfolio of their work in the course. *NOTE: This is an alternative option to the required JTC 413 course, so cannot take both. Offered in Summer Session only.*

**JTC 417 – Information Design and Production (3)** – Introduction to the basics of static and interactive data visualization and information design using charts, graphs, maps, and other visual elements. *The JTC 211 Visual Communication prerequisite is waived for students enrolled in the IS&T Minor.*

**CO-402 – Principles of Digital Rhetoric and Design (3)** Advanced study of rhetorical contexts shaping online texts. Includes instruction in coding and digital design. **Offered in spring term only.**

## **Web Design and Development Courses**

**JTC 372 – Web Design and Management (3)** – Design, development, and management of World Wide Web content. This is an intermediate Web design and production course using Dreamweaver software. *The JTC 211 Visual Communication prerequisite is waived for students enrolled in the IS&T Minor.*

**CT 310 – Web Development (4)** – Web development languages used to create fully functional dynamic web sites; server and client scripting, database access and security issues. **CT 310 is an advanced Web technology course and has two required prerequisites (plus listed Math courses):** CS 161 – Object-Oriented Problem Solving (with “C” or better grade and Math 141, Math 155, or Math 160); and CS 200 – Algorithms and Data Structures. **NOTE: All prerequisites are ENFORCED – no exceptions.**

**CIS 410 – Web Application Design (3 – Fall only)** -- Web development techniques and strategies including Active Server Pages using VBScript, JavaScript, ColdFusion; security; and Web design. **CIS 410 is an advanced Web application course and has three required prerequisites:** CIS 210; CIS 240; CIS 355. **NOTE: The prerequisites for CIS 410 ARE ENFORCED – no overrides are possible without completing ALL of them.**