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).** Three departments in three CSU colleges offer the courses:

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

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

**Prerequisites:**

Complete **one** of the following computer applications courses:

BUS 150* -- Business Computing Concepts and Applications 3

*(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 -- Java Programming 4
- CS 160 -- Foundations in Programming 4
- CS 161 -- Object-Oriented Problem Solving 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

*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

**For Computer Information Systems (CIS) course overrides – personally see (no emails):**

**Michael Jaramillo**, Counselor and Advisor
Rockwell Hall 161, phone 491-4650

**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

IS&T-Minor advising summary – revised May 2015 – effective FALL 2015
The **Information Science and Technology Minor** program of study (the IS&T Minor)

**Program Prerequisite:**
revised May 2015 – effective Fall 2015

*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

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>CS 150</td>
<td>Interactive Java Programming (4)</td>
<td>Introduction to object-oriented programming with Java; problem-solving; creating applets for Web pages, and graphical user interfaces. Prerequisite: Math 117 or 130.</td>
</tr>
<tr>
<td>CS 161</td>
<td>Object-Oriented Problem Solving (4)</td>
<td>Fundamental object-oriented concepts, inheritance, polymorphism, basic algorithms, linked lists, assertions, recursion, induction, counting. Prerequisite is CS 160 with grade of C or better and Math 141, Math 155, or Math 160 as co-requisites.</td>
</tr>
<tr>
<td>CIS 210</td>
<td>Information Technology in Business (3)</td>
<td>Introduction to information systems and the IT profession; information technology hardware, software, and programming; web and database applications; and data analysis tools.</td>
</tr>
<tr>
<td>CIS 240</td>
<td>Application Design and Construction (3)</td>
<td>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).</td>
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### Specialty Courses

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<tbody>
<tr>
<td>JTC 300</td>
<td>Professional and Technical Communication (3)</td>
<td>Professional and technical writing and formatting skills applied to students' major fields. This course will improve your professional and technical writing and formatting skills using computer technology.</td>
</tr>
<tr>
<td>JTC 335</td>
<td>Digital Photography (3)</td>
<td>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&amp;T Minor.</td>
</tr>
<tr>
<td>JTC 416</td>
<td>Global Communication Technology (3)</td>
<td>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.</td>
</tr>
<tr>
<td>JTC 417</td>
<td>Information Design and Production (3)</td>
<td>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&amp;T Minor.</td>
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### Web Design and Development Courses

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<tr>
<td>JTC 372</td>
<td>Web Design and Management (3)</td>
<td>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&amp;T Minor.</td>
</tr>
<tr>
<td>CT 310</td>
<td>Web Development (4)</td>
<td>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 three required prerequisites (plus listed Math courses): CS 160 – Foundations in Programming (need Math 118); CS 161 – Object-Oriented Problem Solving (need CS 160 with &quot;C&quot; or better grade and Math 141, Math 155, or Math 160); and CS 200 – Algorithms and Data Structures (3) (need CS 161). NOTE: These prerequisites ARE ENFORCED – no exceptions.</td>
</tr>
<tr>
<td>CIS 410</td>
<td>Web Application Design (3 – Fall only)</td>
<td>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: CS 210; CS 240; CIS 355. NOTE: The prerequisites for CIS 410 and CT 310 ARE ENFORCED – no overrides are possible without completing ALL of them.</td>
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**Business and Communication Applications**

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<tbody>
<tr>
<td>CIS 355</td>
<td>Business Database Systems (3)</td>
<td>Physical and logical design of databases; implementation, and administration of databases. Prerequisite: CIS 210 – Information Technology in Business.</td>
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<tr>
<td>CT 320</td>
<td>Network and System Administration (4)</td>
<td>Configuration and 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).</td>
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**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 & Media Communication). Call 970-491-2030 or email: pete.seel@colorado.edu for an appointment.