Are you interested in how people interact with technology? Would you like to apply your interest to the design of better products, from mobile devices to video games? If so, the Minor in Human Systems Integration (HSI) might be for you!

About the Minor in Human Systems Integration
HSI is a rapidly growing field with many career opportunities in technology (Google, Apple), medicine and healthcare (e.g., Kaiser), and government (e.g., NASA, US Military, NHTSA, FAA).

HSI involves the analysis, design, and assessment of human interactions with complex sociotechnical systems and products (e.g., aircraft, spacecraft, mobile devices, websites). HSI professionals study the capabilities and limitations of people using these complex systems and then apply this knowledge to develop human-centered systems and products that optimize human capabilities; increase system efficiency, reliability, usability, and safety; and minimize error. HSI research and application can save lives and money as well as reduce stress, frustration, accidents, and injuries.

This minor introduces students to an interdisciplinary science and practice that will help them work in cross-functional teams. Declaring this minor will show employers and graduate programs that you have completed initial training in the field. This should provide you with a competitive advantage given that this is an uncommon focus at the undergraduate level!

Examples of possible career pathways in HSI
May require additional education/training/experience
- Aviation safety
- Cybersecurity
- Human-computer interaction
- Management of HSI
- Industrial design
- Industrial and systems engineering
- Product design
- User experience
- Usability testing
- Video game design

Curriculum
The core minor topics include general psychology, human cognition, basic statistics, and an introduction to human factors. The electives will allow you to tailor the minor to your academic and career interests. The minor requires 21-24 units, depending on the chosen electives. At least 12 of these units must be separate and distinct from the units used for your major program. Six of the units count toward lower-division GE credit (PSYC 001 and STAT 095 – or equivalent).
Minor in Human Systems Integration

Required courses

<table>
<thead>
<tr>
<th>Course #</th>
<th>Program of Study</th>
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<tbody>
<tr>
<td>PSYC 001</td>
<td>General Psychology</td>
</tr>
<tr>
<td>STAT 095</td>
<td>Elementary Statistics</td>
</tr>
<tr>
<td>(or equivalent GE Area B4 class or BUS 090)</td>
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<tr>
<td>PSYC 173</td>
<td>Human Factors</td>
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</tbody>
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Any two of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>PSYC 135</td>
<td>Cognition</td>
</tr>
<tr>
<td>PSYC 155</td>
<td>Human Learning</td>
</tr>
<tr>
<td>PSYC 158</td>
<td>Perception</td>
</tr>
</tbody>
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Electives (choose at least two)

**Aviation Human Factors**
- AVIA 002 Introduction to Aviation
- AVIA 073 Air Traffic Control
- BIOL 141 Human Factors in the Aviation Environment

**Business/Management and Information Systems**
- BUS 2 130 Introduction to Marketing
- BUS 4 091L Computer Tools for Business
- BUS 4 092 Introduction to Business Programming
- BUS 4 111 Networking and Data Communications

**Human Computer Interaction**
- ART/CS 108 Introduction to Game Studies
- CS 046A Introduction to Programming
- CS 046B Introduction to Data Structures
- ISE 164 Computer and Human Interaction

**Industrial Human Factors**
- DSID 121 Industrial Design Process
- ISE 114 Safety Engineering
- PSYC 170 Industrial and Organizational Psychology

**Quantitative Methods**
- STAT 115 Intermediate Statistics

Suggested Degree Roadmap

**First Semester in the Minor**
- PSYC 001
- STAT 095 (or equivalent)

**Second Semester in the Minor**
- PSYC 135/155/158
- PSYC 135/155/158

**Third Semester in the Minor**
- PSYC 173
- Elective 1

**Fourth Semester in the Minor**
- Elective 2
- Elective 3 (if necessary)

Student Organizations

- Psi Chi Psychology Honor Society
  http://studentorgs.sjsu.edu/psichi/

- Human Factors and Ergonomics Society Student Chapter
  http://www.sjsuhfes.com

Academic Unit

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Department of Psychology
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San José, CA 95192-0120

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Web: www.sjsu.edu/psych
Minor: www.sjsu.edu/psych/minors/hsi

Contacts

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Clifton Oyamot, PhD
clifton.oyamot@sjsu.edu
408-924-5650

Affiliated Laboratories

**Vision Laboratory**
http://www.sjsu.edu/people/cary.feria/visionlab/visionlab.htm
Principal Investigator: Cary Feria, PhD
cary.feria@sjsu.edu
Topics: Visual perception, Multiple object tracking

**VECTR Lab**
http://www.vectrlab.net
Principal Investigator: David Schuster, PhD
david.schuster@sjsu.edu
Topics: Human-robot interaction, Cybersecurity, Video games and human performance

**LAVA Lab**
http://lavalab.net
Principal Investigator: Evan Palmer, PhD
evan.palmer@sjsu.edu
Topics: Perception, Attention, Human Factors, Healthcare, User Experience

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