San José State University
Department of Psychology
PSYC 173: Human Factors
Section 1, Spring 2015

Instructor Contact Information

Instructor: Dave Schuster, Ph.D.
Office Location: DMH 315
Telephone: 408-924-5659
E-mail: david.schuster@sjsu.edu
Office Hours: Wednesdays, 1:00pm – 3:00pm or by appointment

Course Information

Classroom: DMH 359
Class Days/Time: Tues. & Thurs., 1:30pm – 2:45pm
Prerequisites: PSYC 001

Course Format
This course uses elements from a flipped classroom delivery format. Internet access is required, as described below.

Course Description
How can technology make our lives safer, more efficient, and more enjoyable? To answer this question, you need to consider the capabilities, characteristics, and limitations of people. This course will introduce you to human factors, a field focused on understanding the interactions among humans and other elements of a human-machine system.

From the catalog: Human psychology and physiological characteristics and methods for taking these into account in designs and development of human-machine systems. Current human factor engineering efforts in lab, design process and operational environment.

Learning Outcomes

Program Learning Outcomes
Upon successful completion of the requirements for a major in psychology, students will be able to:
- PLO1 – Knowledge Base of Psychology – identify, describe, and communicate the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology
- PLO2 – Research Methods in Psychology – design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations
- PLO3 – Critical Thinking Skills in Psychology – use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes
- PLO4 – Application of Psychology – apply psychological principles to individual, interpersonal, group, and societal issues
- PLO5 – Values in Psychology – value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society

Course Learning Outcomes
The major goal of this course is to provide you with an introduction to Human Factors as it is used in science and practice.

Upon successful completion of this course, you will be able to:

- CLO1 - Describe human factors, appropriately use its fundamental terminology, and describe its importance in the effectiveness of human-machine systems
- CLO2 - Apply research, principles, and methods of human factors to human-machine system design, system evaluation, and training
- CLO3 - Describe how human capabilities and limitations interact with design to affect human-machine system performance
- CLO4 - Perform basic usability testing

The learning objectives will be assessed via assignments, exam questions, and the final project.

Required Materials

Reliable Access to the Internet
Having access to the Internet is your responsibility, so have backup plans in case you have problems with your primary computer. I cannot accept excuses about technology problems as valid, unless the entire University network or all of Canvas is offline.

Canvas and E-Mail: Communication, Grades, Quizzes, and Submissions
Use of the Canvas learning management system and e-mail are required. Supplementary course material will be made available on Canvas regularly. This includes additional required reading assignments. Communication regarding the course will be sent via the e-mail address linked to your MySJSU account or posted to Canvas. It is your responsibility to make sure you are enrolled in Canvas and receiving my e-mails.

How to get connected:

- You will need your SJSU ID to login. You should have received a message from the Registrar’s Office providing your SJSU ID.
- If you’ve never logged into Canvas, then you’ll first need to activate your SJSUOne account. Visit the following page to activate your account: https://sjsuone.sjsu.edu/LDAPAccount/Activate/Activate.aspx
- Once activated, you can login to Canvas at https://sjsu.instructure.com/login
Answers about Canvas can be found at http://guides.instructure.com.

Required Textbook

You will need the textbook throughout the semester. Because the purchase price of this text is high ($218.50 new at the Spartan Bookstore), rental options are recommended for students who may not need the text beyond this course ($34.49 for rental through May from amazon.com; $46 for 130 days from barnesandnoble.com). These prices were obtained on January 13, 2015.

Laptop or Tablet (recommended)
You are encouraged to bring a laptop computer or a tablet to class, since most materials will be available through Canvas, but a laptop is not required. Laptops can only be used during class for course-related work. Instead of bringing a laptop, you can print materials from Canvas and bring them to class.

Calculator
You will occasionally need a scientific or graphing calculator for this course; a calculator app on a phone, tablet, or laptop is fine. Bring a calculator to every class meeting. You will not need (or be allowed to use) your calculator during exams. Your calculator must have statistics functions, a square root function, and an exponent button.

Grading Policy

How to be Successful in this Course
SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at http://www.sjsu.edu/senate/docs/S12-3.pdf.

It is essential that you make time every week to:

- Check Canvas and your e-mail for course announcements and changes
- Read the assigned textbook pages and readings posted to Canvas
- Check this syllabus for due dates and upcoming assignments and plan accordingly
- Attend both class meetings
- Complete any work at home for the activity and remember to turn it in
- Ask questions in class or via e-mail

Grading Scale
Grades will be available to you on Canvas throughout the semester. Grades are assigned based on your final point total (out of 1000 points for the semester):

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>966+</td>
</tr>
<tr>
<td>A</td>
<td>916 - 965</td>
</tr>
<tr>
<td>A-</td>
<td>896 - 915</td>
</tr>
</tbody>
</table>
Rounding is Included in the Grading Scale
The point totals reflect rounding up to the nearest percentage. For example, an A- would normally require 900 points (or 90% of 1000 points). With rounding, it only requires 896 points (or 89.6% of 1000 points). Because rounding is built in to the grading scale, your grade will be based on your final point total, rounded to the nearest whole point (so, 895.75 points is an A-, but 895.25 points is a B+). To be fair to everyone in the class, these are firm cutoffs; please do not ask for more rounding, special extra credit, or other unfair adjustments to your grade.

Grade Checks
You have my official permission to use the Canvas printout as a record of your current progress in the course. If you need a signed grade check, then please bring the grade check form with a printout of your current Canvas grade to my office hours. Grade checks are only available during office hours. Under Federal privacy laws, I cannot e-mail grades to you at any time.

Course Requirements and Assignments

Activities
Activities are 40% of your final grade (400 points total). There are no make-ups or extensions on activities for any reason.

Typically, our second class meeting each week will be dedicated to an activity. The activities are designed to give you hands-on practice with the techniques discussed in the lecture and readings. Activities will be assigned most weeks and will be due immediately at the start of class on the following Tuesday. You may be asked to complete a homework portion of the activity before we meet; these are required to receive credit. You must be present for the entire in-class portion of the activity to receive credit. You are encouraged to work collaboratively, but everyone must do his or her own work unless otherwise specified; copying is not allowed.

Note that strict policies apply to the activities:
Late activities are not accepted. If you arrive late to class after an activity has been collected, it will not be accepted for credit.

There are no make-ups or extensions on activities for any reason. Most activities require equipment or class collaboration, so they would be logistically difficult to reschedule.

In place of make-ups or extensions, the lowest three grades for these activities are dropped. Three activities are dropped with the understanding that you may miss one or two for an otherwise valid reason (for example, an illness, family emergency, or a school-sponsored activity). You do not need to notify me when you will miss an activity, although I am happy to discuss its content with you when you return.

Exams

Exams are 40% of your final grade (400 points total).

Each exam is worth 200 points. The two exams will focus on applying the knowledge learned in the previous part of the course. While they are not intended to be cumulative, the second exam may require skills and knowledge learned in the earlier part of the course. The two exams are closed book.

Final Project

The final project is 20% of your final grade (200 points total).

Instead of a final exam, you will be asked to prepare a project on a topic of your interest. More details about the project, including a rubric for grading, will be posted to Canvas during the semester. As part of the project, you will present your work in a poster presentation. This presentation will take place during our scheduled final exam period, and you must be present to receive credit.

Extra Credit

Your grade should reflect your performance in the course over the entire semester. For this reason, there are limited opportunities for extra credit.

First, a quiz is available during the first week of class on Canvas. The quiz is about this syllabus. Your highest score on the quiz (you may take it multiple times) will count as up to 20 points of extra credit.

Second, there may be a small number of extra credit questions at the end of some exams. These questions are designed to be challenging and reward true mastery of the course material.

Make-Up and Extension Policy

Make-ups or extensions for any graded assignment will only be given when:

- The assignment is not labeled, “no make-ups or extensions for any reason.”
- The reason is exceptional, unforeseen, and unavoidable. Examples of exceptional circumstances are health emergencies, religious obligations, and military service. Work scheduling is not a sufficient reason for a make-up or extension.
- You provide written documentation.
- You notify me immediately after you become aware of the circumstances requiring a make-up or extension by filling out this form:
- You submit a request form at http://goo.gl/forms/0yJQ2KbvTP.

If the need for a make-up is known before the assignment due date, the assignment must be completed early. Make-up exams will be scheduled based on instructor availability. Do not e-mail your instructor with requests for a make-up or extension; instead, complete the request form.
Learning Environment
We will be working in groups frequently. The success of our class depends on respect for everyone involved. Specifically:

- Come to class having read the assigned material. Showing up unprepared is unfair to the rest of your group and will waste your time as well. If you are unprepared, excuse yourself from your group to catch up on your own.
- Class will start on time; avoid arriving late. If you are late, enter quietly.
- Silence your electronics during class.
- Don’t text, check your phone, IM, surf off-topic websites during class, or sleep; if you need to do these things, leave the room quietly and return quietly when finished. If you do any of these things in class, you will be asked to leave.
- Stay on topic during group work.

University Policies

Recording and Distributing Class Content
University Policy S12-7, [http://www.sjsu.edu/senate/docs/S12-7.pdf](http://www.sjsu.edu/senate/docs/S12-7.pdf), requires students to obtain instructor’s permission to record the course. Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class, and authorized recording is for the general lecture time only. Group work may only be recorded with permission of all group members. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor. By enrolling in this course, you have not been given any rights to reproduce or distribute these recordings. Course material developed by the instructor remains the intellectual property of the instructor. You may not publically share or upload instructor-generated material for this course without written permission of the instructor.

Dropping and Adding
Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at [http://info.sjsu.edu/static/catalog/policies.html](http://info.sjsu.edu/static/catalog/policies.html). Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at [http://www.sjsu.edu/provost/services/academic_calendars/](http://www.sjsu.edu/provost/services/academic_calendars/). The Late Drop Policy is available at [http://www.sjsu.edu/aars/policies/latedrops/policy/](http://www.sjsu.edu/aars/policies/latedrops/policy/). Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at [http://www.sjsu.edu/advising/](http://www.sjsu.edu/advising/).

General Expectations, Rights and Responsibilities of the Student
As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU’s policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See University Policy S90–5 at [http://www.sjsu.edu/senate/docs/S90-5.pdf](http://www.sjsu.edu/senate/docs/S90-5.pdf). More detailed information on a variety of related topics is available in the SJSU catalog, at [http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html](http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html). In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does
not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

**Academic Integrity**

Your commitment as a student to learning is evidenced by your enrollment at San José State University. The University Academic Integrity Policy S07-2 at [http://www.sjsu.edu/senate/docs/S07-2.pdf](http://www.sjsu.edu/senate/docs/S07-2.pdf), requires you to be honest in all your academic course work. Faculty members are required to report infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at [http://www.sjsu.edu/studentconduct/](http://www.sjsu.edu/studentconduct/).

Instances of academic dishonesty will not be tolerated. Cheating on assignments or plagiarism (presenting the work of another as your own, or the use of another person’s ideas without giving proper credit) may result in a failing grade on the assignment, a failing grade in the course, and/or sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include any material you have submitted in another class or plan to submit for another class, please note that SJSU’s Academic Integrity Policy S07-2 requires approval of instructors.

**Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at [http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at [http://www.sjsu.edu/aec](http://www.sjsu.edu/aec) to establish a record of their disability.

**Accommodation to Students’ Religious Holidays**

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See University Policy S14-7 at [http://www.sjsu.edu/senate/docs/S14-7.pdf](http://www.sjsu.edu/senate/docs/S14-7.pdf).

**About Diversity**

Consistent with the mission of San José State University, I welcome persons of differing backgrounds and experiences including but not limited to age, disability and health status, ethnicity and race, family structure, geographic region, language, religious/spiritual and secular beliefs, resident status, sex, sexual orientation and gender identity/expression, and socioeconomic status.

It is my goal to foster an environment in which diversity is recognized and embraced, and every person is treated with dignity, respect, and justice. I hope that your academic experience in this course and at San José State University will provide the opportunity to gain knowledge and experiences necessary to thrive in a diverse, global environment.
Useful Resources at San José State

**Library Liaison**
Your library liaison can help with library research questions.

Bernd Becker
Phone: (408) 808-2348
Email: bernd.becker@sjsu.edu

**Computer Labs**
Computer labs for SJSU student use are available in the:

- Statistics Lab, located in DMH 350
- Academic Success Center at [http://www.sjsu.edu/at/asc/](http://www.sjsu.edu/at/asc/) located on the 1st floor of Clark Hall
- Associated Students Lab on the 2nd floor of the Student Union
- Martin Luther King Library

Check with each lab for hours and to see what software is available for your use.

**Microsoft Office at No Cost**
SJSU’s license for Microsoft Office allows you a free subscription to Office 365, which includes downloads of Word, Excel, PowerPoint, and others. Visit the [eligibility web site](http://www.office.com/getoffice365).

**Adobe Creative Cloud at No Cost**
SJSU provides students with free Adobe software for SJSU-related activities. Visit the [program web site](http://its.sjsu.edu/services/software/adobe/).

**SJSU Peer Connections**
Peer Connections, a campus-wide resource for free mentoring and tutoring, strives to inspire students to develop their potential as independent learners while they learn to successfully navigate through their university experience. You are encouraged to take advantage of their services which include course-content based tutoring, enhanced study and time management skills, more effective critical thinking strategies, decision making and problem-solving abilities, and campus resource referrals.

In addition to offering small group, individual, and drop-in tutoring for a number of undergraduate courses, consultation with mentors is available on a drop-in or by appointment basis. Workshops are offered on a wide variety of topics including preparing for the Writing Skills Test (WST), improving your learning and memory, alleviating procrastination, surviving your first semester at SJSU, and other related topics. A computer lab and study space are also available for student use in Room 600 of Student Services Center (SSC).

Peer Connections is located in three locations: SSC, Room 600 (10th Street Garage on the corner of 10th and San Fernando Street), at the 1st floor entrance of Clark Hall, and in the Living Learning Center (LLC) in Campus Village Housing Building B. Visit Peer Connections website at [http://peerconnections.sjsu.edu](http://peerconnections.sjsu.edu) for more information.

**SJSU Writing Center**
The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to
become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the Writing Center website at [http://www.sjsu.edu/writingcenter](http://www.sjsu.edu/writingcenter). For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook. (Note: You need to have a QR Reader to scan this code.)

**Counseling Services**
Personal Counselors are available to help students identify and accomplish their academic and career goals, enhance personal development, meet life's challenges, and improve interpersonal relationships.

Free short-term psychological counseling is available to individuals and couples that are matriculated students of San José State University. Students are eligible to receive six sessions per semester.

The SJSU Counseling Services is located on the corner of 7th Street and San Fernando Street, in Room 201, Administration Building. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit the Counseling Services website at [http://www.sjsu.edu/counseling](http://www.sjsu.edu/counseling).

**Wellness Workshops**
Attending to your wellness is critical to your success at SJSU. Early in your college career is the best time to take advantage of workshops and programs offered through the SJSU Student Health Center/Wellness & Health Promotion Department. Past workshops have included time management, community resources, study skills & note-taking, overcoming stress, test anxiety & test taking skills, goal setting, assertiveness & communication, improving self-esteem, graduate school, first-generation success, and more. For more information and a schedule of workshops, visit the Workshop list at [http://www.sjsu.edu/counseling/students/Workshops](http://www.sjsu.edu/counseling/students/Workshops).
**Course Schedule**

The course schedule is subject to change; modifications will be posted to Canvas.

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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thu. Jan 22</td>
<td>Definitions and history</td>
<td>Chapter 1 from Wickens et al. (2004) other readings will be required &amp; posted to Canvas</td>
</tr>
<tr>
<td>2</td>
<td>Tue. Jan 27, Thu. Jan 29</td>
<td>Human factors methods</td>
<td>Chapters 2 &amp; 3</td>
</tr>
<tr>
<td>3</td>
<td>Tue. Feb 3, Thu. Feb 5</td>
<td>The visual system</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>4</td>
<td>Tue. Feb 10, Thu. Feb 12</td>
<td>Exam review (Tue.) Exam 1 (Thu.)</td>
<td>Chapters 1-4</td>
</tr>
<tr>
<td>5</td>
<td>Tue. Feb 17, Thu. Feb 19</td>
<td>The auditory, tactile, and vestibular systems</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>6</td>
<td>Tue. Feb 24, Thu. Feb 26</td>
<td>Cognitive factors</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>7</td>
<td>Tue. Mar. 3, Thu. Mar. 5</td>
<td>Decision making</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>8</td>
<td>Tue. Mar. 10, Thu. Mar. 12</td>
<td>Exam review (Tue.) Exam 2 (Thu.)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Tue. Mar. 17, Thu. Mar. 19</td>
<td>Displays &amp; Control</td>
<td>Chapter 8</td>
</tr>
<tr>
<td></td>
<td>Tue. Mar. 24, Thu. Mar. 26</td>
<td>Spring Break</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Tue. Mar. 31, Thu. Apr. 2</td>
<td>Cesar Chavez Day (Tue.) Controls (Thu.)</td>
<td>Chapter 9</td>
</tr>
<tr>
<td>11</td>
<td>Tue. Apr. 7, Thu. Apr. 9</td>
<td>Physical ergonomics &amp; anthropometry</td>
<td>Chapters 10 &amp; 11</td>
</tr>
<tr>
<td>12</td>
<td>Tue. Apr. 14, Thu. Apr. 16</td>
<td>Stress and workload</td>
<td>Chapter 13</td>
</tr>
<tr>
<td>13</td>
<td>Tue. Apr. 21, Thu. Apr. 23</td>
<td>Safety</td>
<td>Chapter 14</td>
</tr>
<tr>
<td>14</td>
<td>Tue. Apr. 28, Thu. Apr. 30</td>
<td>Human-computer interaction</td>
<td>Chapter 15</td>
</tr>
<tr>
<td>15</td>
<td>Tue. May 5, Thu. May 7</td>
<td>Automation</td>
<td>Chapter 16</td>
</tr>
<tr>
<td>16</td>
<td>Tue. May 12</td>
<td>Selection and training</td>
<td>Chapter 18</td>
</tr>
<tr>
<td>Final</td>
<td>Thu. May 21</td>
<td><strong>Project Presentations</strong> 12:15pm – 2:30pm</td>
<td></td>
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</tbody>
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