COURSE DESCRIPTION:
Survey of research strategies and methods in Speech-Language Pathology and Audiology. Statistical procedures and single-subject designs. Emphasis on interpreting research reports in the literature and on developing research projects. Writing research proposals and reports.

PREREQUISITES:
Introductory course in statistics or consent of instructor; senior status.

STUDENT LEARNING OBJECTIVES:
These outcomes address ASHA Standards III-A, III-D, III-G
Students will demonstrate knowledge of the information listed in these standards in order to demonstrate theory and use of statistical designs in research and to determine the value of different research studies to form prevention, assessment and intervention decisions congruent with evidence-based practice.

2014 KASA (Knowledge and Skills Acquisition) Standards addressed:

IV-A: Applicant must have demonstrated knowledge of the biological sciences, physical sciences, statistics, and the social/behavioral sciences.
Students will demonstrate knowledge of:

IV-D: Applicant must have demonstrated current knowledge of the principles and methods of prevention, assessment, and intervention for people with communication and swallowing
disorders, including consideration of anatomical/physiological, psychological, developmental, and linguistic and cultural correlates.

Students will demonstrate knowledge of:

1. The information listed in this standard in order to determine the value of different research studies.

**IV-F: The applicant must have demonstrated knowledge of processes used in research and of the integration of research principles into evidence-based clinical practice.**

Students will demonstrate knowledge of:

1. The information listed in this standard in order to identify, review, and analyze published research.
2. Evidence-based practice.

**Learning Outcomes Competencies: (CSAD 148):**

Mastery of each student learning outcome listed below is indicated by a grade of C or better on each component of the corresponding measures listed in the table below. Students are required to track their progress towards meeting each learning outcome and must make an appointment with the instructor for any grade equal to or less than a C. The instructor will suggest strategies to help you establish competence and knowledge in these areas.

1. The student will demonstrate knowledge of the scientific method, science, research design and the theory and use of statistics in research.
2. The student will demonstrate knowledge of evidence-based practice, basic vs. applied research, bias, validity and reliability.
3. The student will demonstrate how to develop, conduct and interpret research.
4. The student will describe a topic conducive to experimental research and employ appropriate methods for conducting a literature search on that topic.
5. The student will demonstrate knowledge of human research protections and the history of their development.
6. The student will demonstrate knowledge of the principles and methods of prevention, assessment and intervention for people with communication and swallowing disorders, including consideration of anatomical/physiological, psychological, developmental, and linguistic and cultural correlates of the disorders in order to determine the value of different research studies.
7. The student will demonstrate knowledge of evidence based practice, research design, validity and reliability.
8. The student will demonstrate knowledge of appropriate ethics in speech/language/hearing research.
9. The student will demonstrate the use of computer resources to improve the learning process.

Students should track their progress towards meeting each learning outcome by listing their grades on the table below over the course of the semester.
COURSE MATERIALS:

Required Texts:

Other Required Readings: As posted on SacCT.

Recommended Materials:
Laptop, netbook, iPad, or other device with internet capability, 3-ring binder with dividers for organizing study materials.

COURSE REQUIREMENTS:
Internet connection, access to SacCT/Web site, access to a computer and printer. Access to Top Hat.

Top Hat:
We will be using the Top Hat classroom response system in class (www.tophat.com). You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text messaging. You can visit the Top Hat Overview (https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide) within the Top Hat Success Center which outlines how you will register for a Top Hat account. It also provides a brief overview to get you up and running on the system.

An email invitation will be sent to you by email, but if don’t receive this email, you can register by visiting our course website: https://app.tophat.com/e/603292. Our Course Join Code is 603292 and our password is: CSAD148-03S2017.

Top Hat will require a paid subscription, and a full breakdown of all subscription options available can be found here: www.tophat.com/pricing. Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in app support button, or by calling 1-888-663-5491.
COURSE STRUCTURE:
This course will incorporate a variety of in-class learning experiences including direct instruction/lecture, active learning activities, small/whole group discussions, and multimedia viewing. Due to the breadth and depth of the course content, students will be assigned weekly readings to be completed before the class meeting; in some aspects this course will be a “flipped classroom.” Classes may cover related but different information than is presented in the assigned readings. Therefore, students must attend classes as well as complete all assigned readings. Classes will also provide students with opportunities to apply information presented in the readings by working through a group research project. All assignments and activities are carefully administered for the purpose of enhancing student learning.

EXPECTATIONS:
Students are expected to attend class and to be prepared to participate in weekly class discussions and activities. Attendance may be taken via Top Hat at the start of class. Assignments must be turned in or taken on the scheduled dates and times. If you are absent from class, you are responsible for all material covered. Missed examinations require documentation of a medical emergency and an opportunity to take the exam will be provided during dead week. Make-up exams may include an essay format.

Electronic devices will be used to access posted SacCT resources or documents and Top Hat posted materials. Accessing email and other non-course online activities is not permitted. Students are expected to conduct themselves in a manner that demonstrates respect for others and respect for diversity. Academic dishonesty of any kind will not be tolerated and will be dealt with under established University policy. If you are caught cheating on an exam, you will receive a failing grade for the class. Students who experience concerns with the assignments or course material should communicate these challenges to the instructor as soon as possible. Building rapport and effective relationships are key to becoming an effective professional. Be proactive and inform the instructor when any difficulties arise during the semester so possible solutions can be identified. Information will be posted on SacCT throughout the semester. Ensure that you access the material in a timely manner.

COURSE EVALUATIONS:
At the completion of the course, each student is expected to comment on the nature of this course. This procedure allows the instructor to modify segments of the course in order to make it more applicable to future students’ educational and professional growth.

GRADED COURSE ACTIVITIES:
A minimum GPA of 2.5 is necessary for major classes in order to graduate with a Bachelor’s Degree in Communication Sciences and Disorders. All assignments must be completed and turned in during class, on time, and in the correct form. Late assignments, those in an incorrect form, or e-mailed assignments will receive no credit unless there is a serious and compelling reason and/or doctor’s note and instructor approval. Late or missing assignments will negatively affect the student’s grade.

GRADING:
Points you receive for graded activities will be posted to the SacCT Grade Center. Grades are typically posted within seven (7) days following the completion of an activity. Final grades will be based on the number of points received out of the total number of points available for exams, article reviews, project components and participation. Note: For more information about grading at Sac State, visit the academic policies and grading section of the university catalog.
COMMITMENT TO INTEGRITY:

As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom.

Student Rights and Academic Responsibilities:
Student Standards of Academic Performance and Students Standard of Behavior can be found in detail at: http://www.csus.edu/student/osc/images/pdf/studentrights.pdf. Particulars regarding academic misconduct and ethics are also described.
Plagiarism: Taken directly from [http://www.csus.edu/umanual/student/stu-0100.htm](http://www.csus.edu/umanual/student/stu-0100.htm) “Plagiarism, as a form of cheating, is the use of distinctive ideas or works belonging to another person without providing adequate acknowledgement of that person’s contribution. Regardless of the means of appropriation, incorporation of another’s work into one’s own requires adequate identification and acknowledgement. Plagiarism is doubly unethical because it deprives the author of rightful credit and gives credit to someone who has not earned it. Acknowledgement is not necessary when the material used is common knowledge. Plagiarism at Sacramento State includes but is not limited to:

- The act of incorporating into one’s own work the ideas, words, sentences, paragraphs, or parts thereof, or the specific substance of another’s work without giving appropriate credit thereby representing the product as entirely one's own. Examples include not only word-for-word copying, but also the "mosaic" (i.e., interspersing a few of one’s own words while, in essence, copying another’s work), the paraphrase (i.e., rewriting another’s work while still using the other’s fundamental idea or theory); fabrication (i.e., inventing or counterfeiting sources), ghost-writing (i.e., submitting another’s work as one’s own) and failure to include quotation marks on material that is otherwise acknowledged; and
- Representing as one’s own another’s artistic or scholarly works such as musical compositions, computer programs, photographs, paintings, drawing, sculptures, or similar works.”

Note: Any form of academic dishonesty, including cheating and plagiarism, may be reported to the office of student affairs.

POLICIES:

1. Attendance: Professional attendance is required. Report absences to Dr. Thompson in person or by email prior to class meeting. Practice attending now as attendance (and promptness) at scheduled meetings is a professional behavior that you will need to develop and maintain.

2. You are responsible for all materials covered in your absence. This means that you are responsible for obtaining any materials from a missed class from a classmate or from SacCT when available online.

3. Class meetings and participation: It is expected that students will complete all readings prior to class. Teaching strategies will include lecture, discussion, observation, and functional assignments. Active listening and critical thinking are expected in this course. Participation points and attendance will be recorded via Top Hat.

4. Cellphones/Recording/Electronic Devices: Please silence all cellphones and other communication devices prior to class. To facilitate your own learning (practice in note-taking) and out of respect for your fellow classmates (to allow all students to feel comfortable actively participating in class discussion), please do not audio or video record lectures. If you require an accommodation and require additional support in note-taking, please see Dr. Thompson.

UNDERSTAND WHEN YOU MAY DROP THIS COURSE
It is the student’s responsibility to understand when he/she need to consider dis-enrolling from a course. Prefer to the Sac State Course Schedule for dates and deadlines for registration. After this period, a serious and compelling reason is required to drop from the course. Serious and compelling reasons include: (a) documented and significant change in work hours, leaving student unable to attend class, or (b) documented and severe physical/mental illness/injury to the student or student’s family. Under
emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned if there is a compelling extenuating circumstance. All incomplete course assignments must be completed by the department’s policy.

ACCOMMODATIONS:
Inform your instructor of any accommodations needed. If you have a documented disability and verification from the Office of Services to Students with Disabilities (SSWD), and wish to discuss academic accommodations, please contact your instructor as soon as possible. It is the student’s responsibility to provide documentation of disability to SSWD and meet with a SSWD counselor to request special accommodation before classes start. SSWD is located in Lassen Hall 1008 and can be contacted by phone at (916) 278-6955 (Voice) or (916) 278-7239 (TDD only) or via email at sswd@csus.edu.

STUDENT RESOURCES:

The Student Tech Center (STC)
The STC, located in AIRC 3007, is a resource for students to learn to use software needed to complete course assignments, provides group collaboration space and prints posters for free. The STC workshops include Microsoft Office, Adobe Creative Suite, SPSS, multimedia, and more. In the workshops you will learn how to format documents for APA, MLA, create charts and graphs, manipulate and analyze data, run statistical procedures, design posters, and create webpages. Group tables are available on a first come, first served basis. The STC is open Monday to Thursday from 10am to 7pm and Friday from 10am to 3pm. Nooner workshops are held at 12 noon, Monday to Friday and Happy Hour workshops are held at 5:30, Monday to Thursday. www.csus.edu/stc.

Peer and Academic Resource Center (PARC)
To assist you with your coursework 24 hours a day/7 days a week, the University provides an academic support resource called Smarthinking. Services can be accessed through SacCT/Blackboard. Take advantage of free tutoring to get extra help as well. http://www.csus.edu/parc/index.html

University Reading and Writing Center (URWC)
The primary goal of the University Reading and Writing Center (URWC) is to provide encouraging, focused, and non-judgmental one-to-one tutorials in reading and writing for any undergraduate or graduate student at CSUS. In a collaborative and supportive environment, our peer tutors offer help with reading and writing at all points in the process, from initial planning and organizing through developing and revising a paper or understanding difficult texts. The URWC is supported by Academic Affairs and partners with Associated Students, Inc. Students are welcome to come to the URWC with reading and writing assignments for any course in any academic discipline. We also offer directed self-placement counseling and help for students preparing for the Writing Placement for Juniors (WPJ).

Reference Department - California State University Sacramento Library
The Reference Department provides research help to students, faculty, staff, and community members. Staff are available to help students how to figure out how to get started, what kind of information is needed, and where to go to find the best sources for research projects. Telephone: 916-278-5673, stop by the Reference Desk (2nd Floor of the library), send an email (click on http://library.csus.edu/services/askLibrarian/index.html), or chat with librarians online (click on http://library.csus.edu/default2.asp\%3FpageID=74.html).

DETAILED CLASS ASSIGNMENTS/REQUIREMENTS & ACTIVITIES
### Attendance/In-Class Participation in group activities
- Students are expected to attend each class meeting.
- Students should bring a computer or other device (e.g., mobile technology) that is capable of connecting to the internet.
- Each class meeting will include small-group activities and/or discussions.
- Students will work together in small, randomly-assigned groups throughout the semester. Small group random-assignments will be provided to students at the beginning of the semester.
- Documents for group work will be posted online. Students are required to **print and bring these documents to class**.
- Make-up participation points for a missed class are determined at the discretion of the instructor and will be in the form of a special project/assignment.
- Participation and attendance will be recorded through Top Hat.
- Students will complete peer review forms on their group members at the end of the semester.

### Article Review (AR) Assignments
- Students will complete **two (2)** Article Review (AR) assignments. Students may begin working on the assignment in small, assigned groups during class time, but will complete the assignment at home.
- Assignment documents and forms are available on SacCT. Students are required to print and bring hard copies of the documents to class.
- Each student will submit a hard copy to the instructor on the assigned due date including all documents and grading rubric. Specific assignment information will be available on SacCT.

### Examinations
- During the semester, students will complete **two (2)** exams. Examinations may consist of the following formatted questions: fill-in-the blank, descriptions, matching, and/or multiple choice.
- Students are required to bring pen/pencil and the appropriate scantron.
- Students are encouraged to refer to their assigned readings, in-class notes and activities as a study guide.
- Students are strongly encouraged to complete all textbook/assigned readings, make notes on the textbook and study lecture notes and textbook notes thoroughly.

### Group Research Project
- Students will be randomly-assigned into small groups. Each group will determine an area of inquiry, formulate a research question, and write a **prospectus**, which will be presented in class and handed in on the assigned date. Specific instructions will be posted on SacCT.
- Each group will present their research and outcomes during a formal poster presentation on **May 4th, 2017** during the **3rd Annual Communication Sciences and Disorders Undergraduate Research Symposium**.
- Presentation format, grading rubric, and assigned schedules will be posted on SacCT. Students are required to (a) submit an electronic version of the poster presentation to the instructor by the assigned due date and (b) print a poster of the findings for the poster presentation scheduled for **May 4th, 2017**.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings/Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 2</td>
<td>Review syllabus/assignments/class</td>
<td>Orlikoff et al. (2015) Ch 1 pgs. 1-21 Assign groups</td>
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<tr>
<td>Jan 26</td>
<td>Research and practice in Communicative Disorders</td>
<td>In-class small group activities</td>
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<tr>
<td>Jan 31</td>
<td>Research and practice in Communicative Disorders</td>
<td>In-class small group activities</td>
</tr>
<tr>
<td>Feb 7</td>
<td>The Introduction Section of the Research Article</td>
<td>Orlikoff et al. (2015) Ch 2 pgs 35-40. In-class small group activities</td>
</tr>
<tr>
<td>Feb 14</td>
<td>Components of Introduction</td>
<td>Orlikoff et al. (2015) Ch 2 pgs 57-71. Due: AR #1, submit beginning of class (stapled, hard copy) In-class small group activities</td>
</tr>
<tr>
<td>Feb 16</td>
<td>Research Strategies in Communicative Disorders</td>
<td>Orlikoff et al. (2015) Ch 3 pgs 72-89. In-class small group activities</td>
</tr>
<tr>
<td>Feb 21</td>
<td>*Research Design in Communicative Disorders</td>
<td>Due: Topics for Prospectus, submit at beginning of class (stapled, hard copy) Orlikoff et al. (2015) Chs 3-4 pgs 89-147. In-class small group activities</td>
</tr>
<tr>
<td>Feb 23</td>
<td>Validity Issues in Research Design Pilot Research</td>
<td>Orlikoff et al. (2015) Ch 4 pgs 148-165. In-class small group activities AR #2 - Print/bring forms from SacCT</td>
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<td>Mar 2</td>
<td>The Methods Section of the Research Article</td>
<td>Orlikoff et al. (2015) Ch 6 pgs 204-270. In-class small group activities</td>
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<tr>
<td>Date</td>
<td>Activity</td>
<td>Details</td>
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<tr>
<td>Mar 7</td>
<td>Prospectus Presentations, Groups #1-5</td>
<td>Due: Prospectus Papers and Presentations, Groups #1 - #5</td>
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<tr>
<td>Mar 9</td>
<td>Prospectus Presentation, Groups #6-10</td>
<td>Due: Prospectus Papers and Presentations, Groups #6 - #10</td>
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<tr>
<td>Mar 14</td>
<td>Class cancelled</td>
<td>Dedicated time for work on IRB</td>
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<tr>
<td>Mar 16</td>
<td>Class cancelled</td>
<td>Complete AR #2</td>
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<td>Mar 21, 23</td>
<td><strong>Spring Recess - No class meeting</strong></td>
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<tr>
<td>Mar 28</td>
<td>Exam #1</td>
<td>Responsible for all readings, lectures and class discussions until March 9th</td>
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<tr>
<td>Mar 30</td>
<td>Review exam #1, The Results Section of the Research Article</td>
<td>IRB application due - Data collection cannot begin until ethics clearance has been obtained. Orlikoff et al. (2015) Ch 8 pgs 327-379. In-class small group activities</td>
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<tr>
<td>Apr 4</td>
<td>The Results Section of the Research Article: Statistical Interference</td>
<td>Due: AR #2, submit at beginning of class (stapled, hard copy)</td>
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<td>Apr 6</td>
<td>Data collection and analysis</td>
<td>In-class small group activities</td>
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<tr>
<td>Apr 11</td>
<td>Data collection and analysis</td>
<td>In-class small group activities</td>
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<tr>
<td>Apr 13</td>
<td>The Discussion and Conclusions Section of the Research Article</td>
<td>Orlikoff et al. (2015) Ch 9 pgs 380-417. In-class small group activities</td>
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<tr>
<td>Apr 18</td>
<td>SPSS - Class with IRT AIRC 3008</td>
<td>Orlikoff et al. (2015) Ch 10 pgs 419-437. Mandatory workshop on data</td>
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<tr>
<td>Apr 20</td>
<td>Poster Formatting - Class with IRT AIRC 3008</td>
<td>Be prepared to spend class time working on your poster in the IRT lab</td>
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<tr>
<td>Apr 25</td>
<td>Poster Formatting - Class with IRT AIRC 3008</td>
<td>Be prepared to spend class time working on your poster in the IRT lab</td>
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<tr>
<td>Apr 27</td>
<td>Finalize Posters</td>
<td>In-class small group activities</td>
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<tr>
<td>May 2</td>
<td>Current Research in SLP</td>
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<tr>
<td>May 4</td>
<td>Undergraduate Research Symposium</td>
<td>Project Due - Poster during class time</td>
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<tr>
<td>May 9</td>
<td>Current Research in SLP, Review of URS</td>
<td>Peer evaluation form due in class</td>
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<tr>
<td>May 11</td>
<td>Final Exam Review, Course Evaluations</td>
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<tr>
<td>May 15-19</td>
<td><strong>Exam #2 during the final exam period</strong></td>
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