

USU's Clinical Audiology Doctorate Program Clinical Research Project (CRP) Guidelines

The clinical research project (CRP) is a mentored research experience for graduate students in audiology. The CRP requirement is designed to provide students with an opportunity to conduct high-quality research projects with a faculty mentor to: (1) foster appreciation for evidence-based practice, (2) enhance capacity to be a critical consumer of research, and (3) gain experience and knowledge about the process involved in contributing to the knowledge base of audiology, hearing science, and related fields.

The CRP is a substantive evidence-based experience that requires students to demonstrate critical thinking and synthesis of information resulting in a written paper. It can take the form of a guided quantitative study, qualitative study, or a comprehensive literature review. The CRP is a graded, Pass/Fail, experience required for fulfillment of the doctorate of audiology degree at Utah State University. Students complete the CRP during the first two years of their graduate program and must successfully defend their project by the final week of classes during spring semester of their second year in the program. Completion of the project is required to apply for a fourth-year externship placement.

The guidelines herein are intended to help clarify CRP expectations, facilitate students' ability to engage productively with their mentor(s) and CRP committee, and foster an atmosphere of mutual respect and collaborative inquiry across all participants in the CRP experience.

Clinical Research Project Committee

Students are assigned a faculty mentor in August of their first year. The mentor assigns the research project for the experience, or when feasible, provides the students with available options and the student selects a topic. The mentor and student choose a committee of faculty members. The faculty mentor is the chair of the committee and there are three committee members. The committee is responsible for overseeing the progress of the student's CRP. Ideally, this committee should reflect a diverse mix of faculty, taking into consideration factors such as race/ethnicity, gender identity, sexual orientation, age, disability, faculty status, etc. In addition, committee members are selected based on their expertise and different perspectives of the field. After the committee is selected the student invites the potential committee members to serve. Upon invitation, the potential committee member may ask the student and/or mentor questions regarding the proposed project, expected intellectual contributions, time commitments, etc. The faculty person will then decide whether they will serve on the student's CRP committee.¹ The ultimate CRP committee will consist of the following members:

- (1) **Mentor** The CRP mentor must be a graduate faculty in audiology. The mentor takes the lead on the project. Their responsibilities include—but are not limited to—generating the CRP topic (and adjusting it as needed), guiding the student through all facets of the research experience from start to finish, approving documents/presentations to be shared with the committee, and facilitating meetings. The mentor is also responsible for educating their fellow CRP committee members about the audiology division's CRP process; the CRP's role in the graduate curriculum; and expectations of the student, their documents, and the overall

¹In the audiology division, it is expected that graduate faculty will serve on students' committees when possible. Clinical faculty are *not* required to serve on CRP committees. Rather, clinical faculty who choose to serve are doing so on their own accord to support students in the research process. It is expected that clinical faculty will not take time away from their priority—clinical care—when choosing to serve.

experience. Thus, the mentor's job is to set expectations for the student and committee member through out the CPR experience.

- (2) **External Faculty Member** This committee member must be outside of the audiology division. Note that this individual can be a member of the COMDDE department (e.g., SLP or DeafEd) or, if appropriate, they may be selected from another department on campus. This person can be a clinical or graduate faculty member.
- (3) **Faculty Member 1** This committee member can be from inside or outside of the audiology division. This person can be a clinical or graduate faculty member.
- (4) **Faculty Member 2** This committee member can be from inside or outside of the audiology division. This person can be a clinical or graduate faculty member.

All members must be approved by the USU Graduate School to serve on doctoral committees. After the committee is confirmed, the student must email the COMDDE graduate program coordinator (GPC) with their list of committee members; the GPC will then complete and submit the supervisory committee approval form to the Graduate School.

Clinical Research Project Committee Meetings

(Adapted from The Guidebook for Mentors and Mentees by Case Western Reserve, 2020)

Committee meetings throughout the CRP experience are designed to provide support for the student and push the project's execution forward. Student support from the CRP mentor is critical during these meetings, especially in the beginning. Committee meetings may be daunting for the student, so students often view their mentors as their first ally as they are getting to know the rest of the committee. Mentors should support the student before, during, and after these committee meetings. Some students may need guidance on how to set up or present their projects during the meetings. The following describe the student and committee member roles during the meetings (see meeting checklists for logistics and tasks):

The mentor is the facilitator of all CRP meetings (see meeting checklists). This means that the mentor is responsible for determining whether or not a student is ready for their meeting to be scheduled (or rescheduled), executing the meeting, making sure all voices in the conversation (i.e. the student and committee members) are included, and evaluating when and how to properly aid the student. For example, the mentor should allow the student to think through questions and answer as well as they can but rephrase questions that the student may not understand. The mentor should also decide when the student needs assistance when responding to a question. Most importantly, the mentor should schedule a post-committee meeting conversation with the student to reflect on the feedback given during the committee meeting. This ensures that the mentor and student remain on the same page for moving the CRP forward. It is helpful for the mentor to send a follow-up email to the student and the CRP committee after each committee meeting summarizing decisions, next steps, and the accompanying student expectations. Such emails serve as excellent documentation for the student's and mentor's reference throughout the CRP process.

The student is expected to engage fully in the meeting. This means that the student is expected to demonstrate a deep understanding of their project. For example, they should know and understand the aim of the project, why the project is important, and what gaps (clinically and/or in the research) their project addresses in the field. The student should also be prepared to present their project, discuss next steps, and address questions from the committee.

The committee members are expected to read the paper in advance of the meeting. Committee members should be prepared to ask students questions during their meetings (e.g., questions could be about: clarification, methodology, implications, etc.). If a committee member notes a significant concern with the student's document and/or research project, they should raise concerns with the chair at least 24 hours before the student's meeting. The mentor can then make the decision as to whether or not the meeting should move forward as planned. The mentor always has the power to cancel/reschedule CRP meetings.

Landmark CRP Events

Initial Meeting of Mentor and Student

It is the mentor's responsibility to make initial contact with their assigned CRP mentee prior to the start of the fall semester. At this time the mentor will schedule an initial meeting with the student to discuss the CRP; the meeting should be scheduled no later than Friday of the second week of the fall semester.

During the initial meeting between mentor and student, the mentor will introduce the student to their assigned CRP topic and the CRP Student Planning Form. This is also an appropriate time for the mentor and student to:

- get to know each other (e.g., What are the student's previous educational/research experiences? What kind of guidance does the student need? The mentor can share their work/mentoring style and what the student can expect from them.)
- discuss expectations and responsibilities (and ensure that there is mutual understanding)
- discuss potential CRP committee members
- schedule regular meetings to review the student's progress, goals, challenges, and next steps
- develop of a timeline for completing CRP requirements/landmarks
 - It is important for the students to know that graduate faculty have 9-month contracts. This allows faculty to prioritize projects and activities that are important to them—these activities are likely not to include the student's CRP. There should be explicit communication between the mentor and student about summer expectations and faculty availability.

CRP Prospectus (optional landmark)

The CRP prospectus is an optional landmark. The prospectus experience is typically reserved for a project in its infancy. For example, a research study that is new to the mentor and/or their research program is an excellent candidate for a prospectus. The purpose of the prospectus document and meeting is to provide the student and mentor with a forum for discussion of the CRP's conception and development.

Prospectus Document

The prospectus document should be 1-2 pages in length maximum. The document should include the proposed project's aim. Additionally, the document could consist of an outline of the project or a potential study's methods or specific questions about the potential study/topic. This brief document should set the stage for the prospectus meeting's discussion.

When the mentor believes the prospectus document is in its final stage, the student will electronically distribute it to their committee (a minimum of 14 days prior to the proposal meeting). The student is responsible for scheduling an hour-long prospectus meeting; it is the student's responsibility to coordinate the date, time, and location of the meeting (i.e. secure a room for in-person meetings and secure a Zoom link for virtual meetings).

Prospectus Meeting

The purpose of the prospectus meeting is to provide the student and mentor with a forum for discussion of the study's conception and development. It is not a defense of the prospectus. Rather, it is an occasion for the student to briefly present their document to the committee and get coordinated feedback before the student prepares their CRP proposal. The CRP prospectus meeting is private and facilitated by the mentor. Their duties are to preside and see to it that all participants act in a civilized, polite, and proper manner. During the prospectus meeting the mentor, student, and committee work to finalize the CRP study design and methods.

CRP Proposal

The CRP proposal is a required landmark. The proposal is an opportunity for the student to formally present their proposed CRP project to their committee.

The CRP Proposal Document

CRPs Involving Research Currently Underway and Approved by IRB. For experimental and qualitative studies that are already underway in the mentor's lab, a student's proposal document should at a minimum include the following sections: introduction, methods, proposed analyses, and references. The following sections may also be included if required by the mentor: title page, abstract, and predicted results/findings. The document should adhere to APA formatting and have minimal spelling or grammar errors. The mentor should work closely with the student to mentor them through the literature review, study design, and writing process. This includes making a plan with the student for scheduled draft submissions and mentor feedback.

When the mentor believes the CRP proposal document is in its final stage, the student will electronically distribute it to their committee (a minimum of 14 days prior to the proposal meeting). The student is responsible for scheduling an hour-long proposal meeting; it is the student's responsibility to coordinate the date, time, and location of the meeting (i.e. secure a room for in-person meetings and secure a Zoom link for virtual meetings).

CRPs Involving Research New to the Mentor's Lab and in Preparation for IRB Review. For experimental and qualitative studies, the proposal document should at a minimum include the following sections: introduction, methods, proposed analyses, and references. The following sections may also be included if required by the mentor: title page, abstract, and predicted results/findings. The document should adhere to APA formatting and have minimal spelling or grammar errors. The mentor should work closely with the student to mentor them through the literature review, study design, and writing process. This includes making a plan with the student for scheduled draft submissions and mentor feedback.

When the mentor believes the CRP proposal document is in its final stage the mentor and student will complete an IRB application drawing from the proposal.² At this time, the student will also electronically distribute it to their committee (a minimum of 14 days prior to the proposal meeting). The student is responsible for scheduling an hour-long proposal meeting; it is the student's responsibility to coordinate the date, time, and location of the meeting (i.e. secure a room for in-person meetings and secure a Zoom link for virtual meetings).

² Note for students beginning research that involves a new IRB application, IRB requires that the student's committee members sign a copy of the proposal title page and submit it to IRB with the new application.

CRPs Involving a Review of Literature. For students completing a literature review for their CRP (e.g., a scoping review, a select review, etc.), their proposal document will be relatively short in length. The document should include the proposed project's aim and consist of a detailed outline of the proposed review. The document should adhere to APA formatting and have minimal spelling or grammar errors. The mentor should work closely with the student to mentor them through the organization of literature review and the preparation process. This includes making a plan with the student for scheduled draft submissions and mentor feedback.

When the mentor believes the proposal outline is in its final stage, the student will electronically distribute it to their committee (a minimum of 14 days prior to the proposal meeting). The student is responsible for scheduling an hour-long proposal meeting; it is the student's responsibility to coordinate the date, time, and location of the meeting (i.e. secure a room for in-person meetings and secure a Zoom link for virtual meetings).

Preparing for the CRP Proposal Meeting. The mentor should work closely with the student to prepare for their CRP proposal meeting. This includes going over the meeting's components and expectations with the student beforehand. The mentor should also schedule time with the student to review their presentation slides and provide feedback. Some students and/or mentors also encourage a presentation practice session prior to their proposal meeting. For example, role playing a proposal meeting with fellow lab members can be an especially helpful learning experience for the student.

The CRP proposal meeting. This meeting allows the student to formally present their proposal to the committee. This meeting is an opportunity for the student to seek guidance from the committee and refine their process (e.g., recruitment, analysis plan), identify areas that need to be clarified in the document, and agree upon expectations for the student's final CRP. The CRP proposal meeting is private and facilitated by the mentor. Their duties are to preside and see to it that all participants act in a civilized, polite, and proper manner. The mentor should be familiar with the procedures of the proposal meeting, and they have the authority to suspend the meeting should a situation arise, that would not be conducive to a fair/productive experience. As the facilitator of the meeting, the mentor is also responsible for including all voices in the conversation (i.e. the student and committee members). The meeting has 6 parts:

- (1) The mentor welcomes everyone to the meeting and reiterates expectations for the meeting.
- (2) The student is asked to leave the room and the committee is debriefed by the mentor about the student's CRP progress. The committee members share any concerns that they might have regarding moving forward with the meeting and/or the proposed project. However, major concerns that would require rescheduling the meeting should be brought to the attention of the committee chair before the meeting date.
- (3) The student is asked to return to the meeting and give a 15- to 20-minute presentation summarizing their CRP proposal. (The student can choose whether to accept questions during their presentation.)
- (4) The mentor opens the floor to questions/discussion from the committee. At this time the mentor facilitates a discussion centered on feasibility of the proposed project/next steps in the project and the committee's expectations for the student.
- (5) The student and the committee then finalize the parameters of the CRP and what (if any) changes to the project's execution need to be made. The mentor facilitates communication to ensure that the student understands what is expected for their CRP.³

³ For students conducting CRPs involving research new to the mentor's lab and in preparation for IRB review, this is the appropriate time for the student to secure their committee's signatures on their proposal's title page for later IRB submission.

CRP Defense

The CRP defense is a required landmark. It is an opportunity for a student to share their work and demonstrate the knowledge they gained through the CRP process.

The final CRP document. The mentor should work closely with the student to ensure that the final document is “dissemination ready”. This includes executing a plan with the student for routine, scheduled draft submissions and mentor feedback in development of the remainder of the document (e.g., results, tables, figures, discussion). For experimental and qualitative studies, the document should include the following sections: title page, abstract, introduction, methods, results/findings, and discussion, references. Literature reviews should include the following sections at minimum: title page, abstract, introduction, body, and references. All documents should adhere to APA formatting and have minimal spelling or grammar errors. Mentors should encourage their students to utilize USU’s Science Writing Center to ensure the document is ready to be shared with the committee.

When the mentor believes the CRP document is in its final stage, the student will electronically distribute it to their committee (a minimum of 14 days prior to the proposal meeting). The student is responsible for scheduling a 1- to 1.5-hour-long defense meeting; it is the student’s responsibility to coordinate the date, time, and location of the meeting (i.e. secure a room for in-person meetings and secure a Zoom link for virtual meetings).

Preparing for the CRP defense meeting. The mentor should work closely with the student to prepare for their CRP defense. This includes reviewing the meeting components and expectations with the student beforehand. The mentor should also schedule time with the student to review their presentation slides and provide feedback to the student during a presentation practice session. Again, role playing a defense meeting with lab members can be an especially helpful learning experience for the student.

The CRP defense meeting. This meeting allows the student to formally present their research project to their committee. This meeting is an opportunity for the student to demonstrate their knowledge of the topic, critical thinking skills, ability to synthesize information, and ability to draw relevant conclusions from their work. The CRP defense meeting is open to the public. The student will share scheduling details of the defense with the department’s graduate program coordinator (GPC) no less than 1 week before the defense. The GPC will then distribute the announcement to members of the Audiology Division (and the department at large when relevant). The mentor will facilitate the CRP defense. Their duties are to preside and see to it that all participants act in a civilized, polite, and proper manner. The mentor should be familiar with the procedures of the oral defense, and they have the authority to suspend proceedings should a situation arise, that would not be conducive to a fair/productive experience. As the facilitator of the meeting, the mentor is also responsible for including all voices in the conversation (i.e. the student and committee members). The meeting has 7 parts:

- (1) The mentor welcomes everyone to the meeting and reiterates expectations for the meeting.
- (2) The student (and any public audience members) is asked to leave the room and the committee is debriefed by the mentor about the student’s CRP progress. The committee members share any concerns that they might have regarding moving forward with the meeting. However, major concerns that would require rescheduling the meeting should be brought to the attention of the committee chair before the meeting date.
- (3) The student (and audience) is asked to return to the meeting and the student gives a 15- to 20-minute presentation summarizing their CRP. (The student can choose whether to accept questions during their presentation.)
- (4) The mentor opens the floor to questions from the audience, but not from the committee.

- (5) The mentor then closes the floor to questions from the audience and the committee gets to ask as many questions as they wish. Questions dealing with the substance, meaning, and clinical application of the research in the CRP are of greatest priority.
- (6) The student (and any public audience members) is asked to leave the room and the committee discusses whether the student passed the defense and what (if any) changes in the CRP document need to be made.
- (7) The mentor invites the student to return, and the mentor tells the student the committee's decision.⁴

Dissemination of the CRP Work

All students are required to disseminate their research findings to a professional audience under the guidance of their mentor. This could mean that the student presents their final work via a peer-reviewed conference presentation or published journal article. At minimum, the student is required to present their work at a local conference (e.g., USU's Student Research Symposium or the Regional Audiology Student Symposium (USU, UofU, & ISU)).

Authorship

Authorship is currency in the world of science, and it is a very serious topic. Students are expected to treat it as such. Authorship is always up for public discussion. It is recommended that authorship is discussed early and often throughout the CRP experience. The terms of authorship will be established by the mentor; thus, the authorship conversation is typically initiated by the mentor, but students should not hesitate to start the authorship conversation.

As per the American Speech-Language-Hearing Association, byline order on a paper, presentation, or poster (i.e. the list of authors) is determined in accordance with authorship criteria recommended by the International Committee of Medical Journal Editors (ICMJE). These guidelines generally state that authorship order is determined in accordance with each individual's contributions to the project. Thus, authorship is earned, not gifted. When preparing the outcomes of the CRP to be disseminated in the field, it is important that the student, mentor, and any other contributing researchers have an explicit conversation(s) about authorship. Students should know that (1) the author byline for a poster or presentation does not necessarily equal the journal article byline and (2) the author byline order can be renegotiated by any author at any time if an author is not upholding their responsibilities.

⁴Once the committee agrees that the student has successfully completed and defended their Clinical Research Project, the committee must sign the final "Defense Completion Form". A scanned copy of this signed document must be uploaded into *Box* by the student.