



Advanced Exploratory Research
Mentor Handbook
2019 edition

WELCOME

Dear Mentors,

Thank you for volunteering to be a part of Laguna Beach High School's Advanced Exploratory Research (AER) program. You are a vital part of this program because of the professional expertise and guidance you can provide our students. It is the real-world application and understanding that makes this program such a success.

This program would not be possible without gracious mentors like you.

Respectfully,

Jun Shen and Jenn Lundblad
AER Coordinators

ABOUT THE ADVANCED EXPLORATORY RESEARCH (AER) AND INNOVATION PROGRAM

The AER program is a unique opportunity for students in grades 11 and 12 to use their interests, passions and curiosities to drive original, authentic research. Students will develop an inquiry question that will drive their exploration and investigation in their area of interest. Students who participate in this program will be encouraged and supported through four pillar of support: parents, teachers, mentors and the district.

Research methods and procedures will be taught through curriculum that has been developed by the AER team. Students should expect to spend about 60 hours per semester (3-4 hours per week) working on their project. Students are expected to meet with their teacher at least once per week to receive content and present on progress. This meeting will be by appointment and will be arranged through the student and teacher. This program is UC "g" approved, and students earn 5 CTE credits per semester.

The curriculum has three main components

- Personalized learning
- Integration of knowledge and process
- Communication of research



Every student will be matched with a mentor that has professional expertise in the student's focus area. Once the student-mentor partnership has been made, it will be up to the student and the mentor to determine appropriate environments to meet in: mentor's lab, office, library . . . as well as to determine days and times. Mentors can anticipate to spend 40-50 hours throughout the school year assisting the student in completing their project.

MENTORING GUIDELINES

Expectations

As an AER mentor, you will

- . . . mentor 1-3 students (depending on the project(s))
- . . . sign the **AER Mentor Agreement** before corresponding with students
- . . . serve as a content expert to support and facilitate students' work
- . . . supervise students' work in lab, office, or other appropriate environment (as necessary)
- . . . create an atmosphere that empowers and encourages students to ask questions
- . . . guide students' progress and ensure each project is on track
- . . . monitor students' work and provide appropriate and timely feedback
- . . . check in with the AER Coordinator (as necessary)
- . . . spend approximately 40-50 total hours mentoring over the course of the school year (late August - early June) depending on the number of students

Guidelines for Interacting with Students

The nature and frequency of your interaction with students will depend on the scope of the project and the needs of the student. As mentioned, it is up to you and the student to determine the method of communication and location of interactions. The following guidelines are offered as suggestions.

- Check in with your student once per week via email (or other form of communication, if requested by the student and authorized by the parent).
- Communicate with the student as often as necessary.
- Introduce student to relevant materials for their chosen field of study (i.e., previously published research).
- Attend the Celebratory Showcase in May (if possible).
- Stress the importance of asking questions. Be careful not to make students feel inferior while they learn to formulate stronger and more focused questions.
- Cite examples of the types of methods and techniques that can be used to address research questions.

MILESTONE CHECKLISTS

Students meet with their AER teachers every week. The AER teachers evaluate the students and given them a final grade. As a mentor, you are serving primarily as a content-area guide.



| unit | milestone | draft due | final due |
|---|-------------------------------|------------|------------|
| 1: Interest Exploration & Background Research | preliminary research question | | 10/01/2019 |
| 2: Project Proposal & Methodology | research proposal | | 11/05/2019 |
| 3: Research Design & Planning | update project proposal | | 12/17/2019 |
| 4: Data Collection & Documentation | reflections | | 02/25/2020 |
| 5: Drawing Conclusions & Sharing Findings | poster rough draft | | 03/24/2020 |
| 6: Research Report & Reflections | paper rough / final draft | 05/05/2020 | 06/02/2020 |

Milestone 1: Interest Exploration & Background Research

Completion deadline: 10/01/2019

- Submit AER agreement forms before interaction with students
- Establish best method of weekly communication with students
- Get to know students research interests and help them narrow down topic for research
- Help students identify good sources of background research in their chosen topic (i.e. existing peer reviewed research and journal articles)
- Encourage students to ask questions
- MILESTONE COMPLETE**

Milestone 2: Project Proposal & Methodology

Completion deadline: 11/05/2019

- Check in with students weekly to answer any questions
- Help students refine their research question and its feasibility
- Assist students in their understanding of appropriate research methods
- Continue providing advice and guidance regarding valid sources for background research
- MILESTONE COMPLETE**

Milestone 3: Research Design & Planning

Completion deadline: 12/17/2019

- Check in with students weekly to answer any questions



- Help students design reasonable execution plan that outlines goals and dates that can be used to measure progress
- Assist students in determining appropriate research methodologies
- Guide students in planning logistics of data collection and recording
- Provide input on survey, interview, and focus group questions (if appropriate)
- MILESTONE COMPLETE**

Milestone 4: Data Collection & Documentation

Completion deadline: 12/17/2019

- Check in with students weekly to answer any questions
- Support students as necessary in their data collection and organization
- Help students compile and summarize data
- MILESTONE COMPLETE**

Milestone 5: Drawing Conclusions & Sharing Findings

Completion deadline: 03/24/2020

- Check in with students weekly to answer any questions
- Help students draw conclusions and interpret findings
- Assist students as they create their research posters
- Provide guidance and strategies for students in preparation for their oral presentations
- Approve final poster
- MILESTONE COMPLETE**

Milestone 6: Research Report & Reflections

Completion date: 06/02/2020

- Check in with students to answer any final questions
- Attend celebratory showcase
- Approved final paper
- MILESTONE COMPLETE**

Program Office / Contacts

| name | title | phone | email |
|---------------|------------------------|--------------|---------------------|
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