# Capstone Project
# Student Guide

The E&T program uses the flipped classroom format where students read the material before class and come prepared to discuss the topics. All students are required to come prepared to participate, which includes completing the reading and all assignments in advance.

Work submitted for this assignment should reflect your own knowledge, analysis, and effort. AI tools may be used to support research, brainstorming, and editing, but should not replace your original work. Any AI-generated content included in the submission should be appropriately acknowledged in accordance with course requirements and the Volunteer University Academic Integrity Standards.

**Lesson Objective:** Students will apply what they have learned in the Education and Training program to solve a problem of region or national significance.

**Desired Learning Objectives (DLO):**

1. Identify a problem or innovation of region or national significance.
2. Research the topic of interest to ensure the current situation and related initiatives are considered.
3. Work individually or collaboratively with a group to develop a viable solution to the problem or innovation you identified.
4. Present your proposal to your instructor and class/other students using the appropriate written format and through an oral presentation.
5. Answer questions from your audience related to your project.

**Suggested Time to Complete Module (reading, discussions, and assignments):**
Synchronous onsite/ViR classes: 10-14 hours
Asynchronous online modules: 10-14 hours

*Note: This project may take significantly more time, depending on the complexity of your project. It may also vary for team projects, as the workload can be split, but it requires more coordination.*

**Required Reading:** Student Guide

## Introduction

Capstone projects are the pinnacle of Level V. This project encompasses all the knowledge you gained during the Level V courses. You have also experienced CAP from a member and leadership perspective. The Capstone project asks each student to identify a problem to solve or propose an innovation, develop a viable proposal, and present the project to a group.

## 1. Identify a problem or innovation of region or national significance.

As a leader who has developed strategic acumen through your education and training, you have recognized issues the organization faces or potential innovations that could enhance it. It is highly recommended that you begin brainstorming Capstone project ideas after signing up for a Level V course. Region/national staff, region commanders, region/national Offices of Primary Responsibility (OPRs), and the current strategic plan are good sources for possible Capstone topics. Lessons in the Level V course and class discussions will assist with identifying project ideas. Research should provide evidence/data on the significance or impact of this issue.

Work individually or in small teams (up to 4 students). If you work in a team, each team member will provide feedback to the instructor on the work by all team members to ensure everyone participates equally. There are advantages and disadvantages to group work. Weigh your choice carefully and make the best decision for your topic, circumstances, preferred work style, etc.

Students should review the Capstone Project Feedback Worksheet before doing any significant work to understand how their project will be evaluated. Both this worksheet and the Peer Feedback Worksheet are included in the Level V downloaded materials.

If a team of instructors leads your course, they will identify where to submit your project. Your instructor may also assign a mentor for your project to serve as an advisor and answer your questions. The mentor is typically a Level V instructor with experience in your project's subject area. The mentor can also help you to define your topic if you are having difficulties. If you don't have a mentor, your instructor fills this role.

Once you select a Capstone topic, you will develop a specific problem statement. The problem statement must:

1. Present an issue or innovation of region or national level significance.
2. Be something that, if enacted, will contribute to meeting an objective of the CAP Strategic Plan, improve one of CAP's missions, or significantly impact a mission enabler (e.g., reduce a significant safety or cadet protection risk; enhance education and training; improve logistics, processes, awards, etc.).

3. Have an intended deliverable that will substantially contribute to improving CAP.

The problem statement should NOT be a solution to an undefined problem. Develop your problem statement first, then identify a proposal. It also should not be an opinion or “pet peeve.” Data must support that this is a region or national level issue.

Submit the problem statement to your mentor, include a brief summary of the current situation as background for the problem statement, and list at least three research sources. These do not need to be the final source list but must show available data sources. Your mentor will review and provide feedback. The student/team then sends these to the instructor for approval (online students upload proposed problem statement, background, and sources in Absorb).

**2. Research the topic of interest to ensure the current situation and related initiatives are considered.**

Once you have identified a problem or innovation of region or national significance, research what initiatives related to the problem are in progress. You cannot solve a problem that already has a solution in development. You can address a solution or innovation on a priority list, such as IT’s workflow, that has not yet begun development, since there are still opportunities to provide input. Work with your instructor/mentor to ensure your proposal is viable and your efforts are not wasted. Look for statistics and data and review any publications related to the topic.

**3. Work individually or collaboratively with a group to develop a viable solution to the problem or the innovation you identified.**

Most of your effort will be in developing your proposal. Once you have an approved problem statement, brainstorm possible solutions or innovations. Do a brief analysis and select the solution(s) or innovation(s) you want to fully develop. If you are working with a team on the project, create a timeline, divide up the tasks, and meet to discuss practical proposals.

A good proposal requires research. Part of this process is to collect and analyze background information and brainstorm possible solutions or innovations. Some ideas for research are listed below. You do not need to use all these, nor are you limited to this list.

1. Existing CAP regulations
2. Civil Air Patrol HUBCAP (innovation hub)
3. Federal laws

4. Regulations from the Department of Defense (DoD), Air Force, Federal Aviation Administration (FAA), Environmental Protection Agency (EPA), etc.
5. Published studies related to the problem, solution, or innovation
6. Subject Matter Expert (SME) at the region or national level or outside of CAP
7. Member surveys (existing or your own—must survey members across a region or nationally, not just within a wing, or survey members across a group of wings that match your target demographic, such as small wings with fewer than "x" members or wings with large urban areas)
8. Programs, policies, or tools in similar organizations or with a similar mission
9. Accident reports, after-action reports (AARs), etc. Examples include National Transportation Safety Board (NTSB) aircraft accident reports and Federal Emergency Management Agency (FEMA) exercise/disaster AARs.

Make sure your proposal is viable. For example, a proposal that CAP provides every member with a laptop would not be possible because of CAP's budget constraints.

Evaluate costs and resources to implement the proposal and discuss how these could be addressed. CAP does not have unlimited funds or resources. Costs are not just dollars–our volunteers and paid staff have limited time to dedicate to a project. Describe challenges and/or objections to implementation and offer methods to mitigate these challenges. Identify or develop tools to assist with implementation (e.g., forms, databases, regulations). Since programming resources are limited for eServices proposals, if an IT project is recommended, identify interim measures until the programming solution can be built (which could be several years).

**4. Present your proposal to your instructor using the appropriate written format and through an oral presentation.**

Produce a written document that outlines the current situation and proposal. Your mentor can help you choose the most effective way to present your proposal. This is usually a background or advocacy paper and may include tools, such as a draft supplement, operating instruction (OI), or pamphlet. Support your proposal with facts and data. Present the project to a panel of instructors and class/other students in an oral presentation.

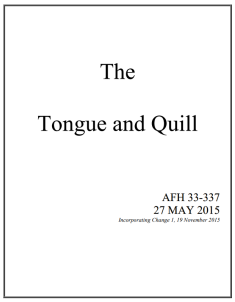
**Capstone Paper**

Your Capstone paper is how you convey your research and recommendations to the region or national staff. Ideally, the paper should be written to drive change, not just to

get a grade and complete your Level V. It should include a thorough analysis of the situation, possible solutions or innovations, your proposal, and how to implement it.

Tips for an effective paper:

1. Write as if the national commander or a senior leader is the audience—they just might be! Does your introduction encourage them to invest their valuable time to read further? Is the region or national level impact apparent? Does your recommendation illustrate the value to CAP and justify the investment? Is it logical and easy to follow? Is it concise? Does it respect the reader's time?
2. Papers will include:
   - Title
   - Student name(s) and contact information
   - Problem statement
   - Background on the current situation and existing process
   - Possible solutions or innovations with a brief analysis of each (e.g. strengths/weaknesses, why not selected, etc.)
   - Recommended solution(s) or innovation(s) with detailed analysis, including benefits and challenges to implementation
   - Proposed tools, if appropriate (e.g. supplement, operating instruction, training plan, etc.)
   - Costs, risks, and challenges of implementing the recommendation and ways to mitigate
   - References (see below for citation format)
3. Catch the audience's attention early. Your audience has much to process daily. If they do not understand your objective in the first few sentences, they may not read further. The military uses "BLUF" or Bottom Line Up Front, and many paper formats use an Executive Summary or an Abstract, but you can use any format that works. The key is to clearly state the problem early so the reader is invested in reading further.
4. The Air Force Tongue and Quill (AFH33-337), Part II, provides advice on creating an excellent paper and presentation. Know your audience. Write clearly in plain language. Although your proposal may be implemented by staff who are familiar with the terminology, it needs to be understood by commanders and staff (and your instructor!) who may not use this language daily. Spell out acronyms and abbreviations on first use. Provide definitions for specialized or



uncommon terms.

5. Another good resource is Purdue University's free Online Writing Lab (OWL). The OWL helps writers develop, regardless of skill level. It includes topics such as general writing skills, research and citation, and avoiding plagiarism. It also includes self-paced/self-graded exercises for those who would like to practice their skills.
6. Writing in plain language helps you convey your message. The US Government Plain Language Website offers tips on writing for your audience, organizing the information, choosing the right words, being concise, and more.
7. A narrative format or background paper is appropriate. If doing a background paper, use the template described in CAPP 1-2, *The CAP Guide to Effective Communications* (available on the national publications page), CAP templates, or templates in Tongue and Quill. The Advocacy Paper described in CAPP 60-32, Cadet Staff Duty Analysis Guide, is another excellent format that is designed for this type of paper. Use tables and graphics where they help to convey your message, label them with a title, and reference them in your written text.
8. Organize your paper in a logical pattern. Section/paragraph headings are useful. If you need to reference paragraphs within the text, it is recommended that you number them.
9. Integrate information learned from your research and cite sources.
10. Effectively presenting the situation, background, and proposal can typically take six or more pages, but you should not let the page count control your content. Instead, ensure the project is effectively presented using enough pages to cover all required items.

**Source Citation**

Include at least three significant references in your paper. A separate reference page is not required but is allowed.

Citation Examples:

When you use a quotation or a data source for your project, you will need to cite it. The citation format will be an "in-line" citation such as:

- Book

  Robert K. Greenleaf states, "As I see it, we are concerned with the circular process: the person builds the team, and the team builds the person." (Greenleaf, Seeker and Servant, page 90)

- Regulation

The CAP finance regulation states, “CAPF 172, *Consolidated Finance Authorizations*, will be reissued annually and at each change of command at unit, wing, and region level.” (CAPR 173-1)

- Magazine/ Paper

Lt Col Bob Ditch said, “It is unbelievable that this largest and longest mission in CAP history would potentially contribute to saving more lives [nearly 120,000] than all combined missions in the organization’s 82 years.” (CAP Volunteer, Fall 2024 page 29)

- Website

The PESTLE Analysis website states, “Technology is a potential vehicle of success for charities, and yet only a small percentage have adopted technology into their organizations.” (https://pestleanalysis.com/pestle-analysis-for-charities/)

- Video

When discussing volunteerism in her TEDx talk, Maj Gen Aye said, “Volunteerism is down in most states and has been in decline for years.” (https://www.youtube.com/live/vvLoaW1VJnE?t=1443s)

- Artificial intelligence (AI)

When given the prompt “What are the stages of team building?”, the Copilot-generated text indicated the stages are “Forming, Storming, Norming, Performing, and Adjourning” (Copilot, 2024; see Appendix A for the full transcript).

*Since the exact results of an AI prompt are not retrievable by other readers, recommend copying the text from a long response into an appendix so readers have access to the entire text. (https://apastyle.apa.org/blog/how-to-cite-chatgpt)*

**Capstone Presentation**

Present the situation and proposal to a panel of instructors and class/other students in an oral presentation. The panel may also include SMEs.

**Slides**

Use PowerPoint slides formatted with the CAP templates provided in the CAP Brand Portal. Do not type out your entire presentation on the slides and read the slides. Slides support the presentation as a summary/memory jogger, typically in bullet format. Include relevant graphs or tables for data that can’t be summarized. There is no prescribed number of slides, but the slides must include an introduction, discussion,

recommendation, and conclusion. Use enough slides to convey your message.

Tongue and Quill includes tips on preparing briefing slides starting on page 118. Some tips include:

- Keep it simple.
- Spelling is important!
- Use the "7 x 7 rule"
    - No more than 7 words per line.
    - No more than 7 lines per slide.
- Don't read slides—it's insulting to your audience.
- Have only one thought per slide—it gives the audience time to refocus on you.
- Font for the slide body should be 20-26 point (any smaller and it's hard to read).

**Scheduling**

Once your mentor approves the final draft of your paper and slides, submit them to your instructor and request scheduling your presentation. Your instructor will identify how far in advance of your presentation to submit, typically 1-2 weeks.

**Uniform**

Your instructor will identify the required uniform for the presentation. This is normally the minimum basic uniform: the service uniform, either a short-sleeved light blue AF-style uniform or an aviator shirt uniform, as described in CAPR 39-1. Proper uniform wear is a factor in the evaluation.

**Presentation**

Presenters have 15 minutes to present their topic. All team members must present during this time. When presenting, make eye contact with your audience. Pay attention to your posture. If you're presenting virtually, look at the camera, eliminate background noise or activity, and ensure sufficient front lighting so you aren't in shadows.

**5. Answer questions from your audience related to your project.**

After your presentation, your instructor, panelists, and classmates have the opportunity to ask you questions about the project. The evaluation includes how presenters answer

the questions.

### Capstone Grading and Credit

All projects are evaluated using the Capstone Project Feedback Worksheet, provided with the course materials. Each panelist completes a worksheet. Instructors forward the worksheets to the student/project team to incorporate into the final paper.

Each member of a project group completes the Peer Feedback Worksheet to describe the contributions of each group member (including themselves). The instructor uses this feedback as input to determine if an individual earns module credit.

Once you've incorporated the feedback, submit the paper to your instructor. Your instructor reviews the paper and may provide additional feedback for corrections. Once the paper meets requirements, your instructor posts credit in eServices and submits the project to the National Innovation Team to include in the NHQ database.

Students whose papers or presentations need significant editing may be required to revise their papers and/or redo their presentations.

### Assignment

Develop a proposal of region or national significance using the instructions in this Student Guide.

1. Identify a problem or innovation of region or national significance and submit it to your instructor for approval.
2. Research the topic of interest to ensure the current situation and related initiatives are considered.
3. Work individually or collaboratively with a group to research the problem or innovation and develop a viable proposal.
4. Write a paper to present your problem statement or innovation, background, existing process, proposal(s), and costs/risks/challenges of the recommended action(s).
5. Present your proposal to your instructor and class/other students using the appropriate written format and through an oral presentation with PowerPoint slides.
6. Answer questions from your audience related to your project.
7. Incorporate feedback into your paper and submit for grading.

**Assignment for Synchronous Onsite/VIR Classes**

1. By the date specified, submit your proposed problem statement or innovation proposal to your instructor for approval.
2. Submit your paper to your instructor prior to your presentation. Your instructor will provide a due date to allow time to review the paper in advance.
3. Your instructor will provide dates and times for Capstone presentations.

**Assignment for Asynchronous Online Students**

1. Upload your proposed problem statement or innovation proposal for approval.
2. Upload your paper for grading.
3. Your oral presentation can be a slide presentation with an audio narrative, a video of your presentation, or a live virtual session at a specific time. If presented as a slide presentation or video, you will participate in a live question-and-answer session as scheduled by an instructor.

**Aim Higher!** Optional activities for those who wish to apply this lesson further:

1. Submit your final paper to HUBCAP in eServices to share your idea with others.
2. Submit your paper through the chain of command for support by your wing and region commander. If it includes a change to regulations, include a CAPF 1-2, Recommendation for Change to Publication.

**Lesson Summary and Closure**

The Capstone Project is an opportunity to use what you have learned throughout the Level V course and apply it to a real problem or innovation at the region and national levels. This is an opportunity to create change in CAP and begin applying your new knowledge. You now have enough information to start brainstorming your topic, problem statement, and tools to develop an effective paper and presentation.

**Resources:**

1. Capstone Project Feedback Worksheet
2. Peer Feedback Worksheet
3. CAP Publications Templates
4. CAP Brand Portal

5. CAP Dictionary
6. CAPP 1-2, The CAP Guide to Effective Communications
7. CAPP 60-32, Cadet Staff Duty Analysis Guide
8. DAFH 33-337, The Tongue and Quill, Part II
9. How to Cite ChatGPT
10. Purdue University Online Writing Lab
11. Federal plain language guidelines

**Acronyms and Abbreviations Used in this Document**

- AAR: After-Action Report
- AI: Artificial Intelligence
- BLUF: Bottom Line Up Front
- DoD: Department of Defense
- DLO: Desired Learning Objective
- EPA: Environmental Protection Agency
- FAA: Federal Aviation Administration
- FEMA: Federal Emergency Management Agency
- NTSB: National Transportation Safety Board
- OI: Operating Instruction
- OPR: Office of Primary Responsibility
- OWL: Online Writing Lab
- SME: Subject Matter Expert
- ViR: Virtual In-Residence