Capstone Project

Instructor Guide

The E&T program uses the **flipped classroom format** where students read the material before class and come prepared to discuss the topics. The PowerPoint slides are used during onsite, person-to-person, and virtual classes to summarize the material and to facilitate discussions and scenarios. Instructors can modify the slides based on the audience if they support the core material. All students are required to come prepared to participate, which includes completing the reading and all assignments. While assignments may be modified, they should not be waived. For example, an item might be done in groups in class versus as homework

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

Scheduled Lesson Time for Synchronous Onsite/ViR Classes:

- 30 minutes for Capstone overview and student questions
- 30 minutes per project for presentations

Teaching Method: Facilitated discussion and activity

Reading Materials: Student Guide

Teaching Aids/Handouts:

- Capstone Project Feedback Worksheet
- Peer Feedback Worksheet
- CAP Publications Templates
- CAP Brand Portal
- CAP Dictionary
- CAPP 1-2, The CAP Guide to Effective Communications
- CAPP 60-32, Cadet Staff Duty Analysis Guide
- DAFH 33-337, The Tongue and Quill, Part II
- How to Cite ChatGPT
- Purdue University Online Writing Lab
- Federal plain language guidelines

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 the 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.

Lesson Strategy: This lesson outlines expectations for the Capstone projects and presentations prior to students beginning to work on their projects. Credit for this module is given after completion of the Capstone paper and presentation.

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.

Review: Ask the students if they have any questions about the reading. If they have questions, answer them.

Bridge: Preparing your Capstone projects is more than just generating an idea or writing an opinion. Proposals must be based on research, validated by facts, executable, and effectively presented in a paper and briefing.

Discussion Format

Lead-off Question: Why must the problem statement or innovation address a question of regional or national significance?

[Possible answers: *course is about serving on region or national staff, strategic in nature, pinnacle]*

Supporting Question 1: What are some things the problem statement or innovation must do?

[Answer: *Address an issue of region or national level significance; contribute to meeting an objective of the strategic plan, improve one of CAP's missions, or*

significantly impact a mission enabler; have an intended deliverable that will substantially contribute to improving CAP.]

Supporting Question 2: What are some things the problem statement or innovation must NOT be?

***[Answer:** Should not be a solution to an undefined problem; should not be an opinion or "pet peeve".]*

Question: What are some sources for researching the innovation, problem, or solution?

***[Possible answers:** CAP regulations; HUBCAP; Federal laws and regulations; published studies related to the problem or solution; subject matter expert (SME) at the region or national level or outside of CAP; member surveys; programs, policies, or tools in similar organizations or those with a similar mission; accident reports; after-action reports (AARs)]*

Question: What are some types of challenges in implementing a solution or an innovation that might need to be addressed in the paper? Give an example of a challenge and its mitigation measures.

***[Possible answers:** costs, resources, time, opportunity costs, interim measures for IT or other solutions, resistance to change.*

If no one provides an example, provide this one or one of your own: Project proposes buying backup cameras for all COVs that don't have them. A challenge includes the cost of purchasing and installing equipment. Mitigation measures could include savings from repairing damage from backing accidents that cost CAP an average of $x/year. Over xx years, these savings will offset the costs. Other benefits of reducing injury risk or preserving mission capability may not have a dollar value, but they may be worth the additional cost.]

Question: What are some resources to help with writing the paper?

***[Possible answers:** Tongue and Quill; CAP Dictionary; CAPP 1-2, The CAP Guide to Effective Communications; CAPP 60-32, Cadet Staff Duty Analysis Guide; CAP templates; CAP Brand Portal; Purdue Online Writing Lab (OWL)]*

Question: What are some tips for an effective presentation?

***[Possible answers:** keep it simple; do not write out your entire paper, use bullets; do not read your slides to your audience; 7x7 rule; one thought per slide; font size 20-26 point; have an introduction slide and conclusion slide]*

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.
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.

Instructions for Synchronous OnSite/ViR Classes

1. By the date specified, submit your proposed problem statement or innovation, background summary, and three potential sources to your instructor for approval.
2. Submit your paper and slides 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.

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.

INSTRUCTOR RESOURCES ARE ON THE NEXT PAGES

Instructor Responsibilities for Capstone Projects

The instructor is responsible for teaching the Capstone student module and should be familiar with the instructions provided in the Student Guide. This includes approving the student's selection of a problem or innovation of region or national significance that the student can realistically address with a project, using the time and resources available. Students may work individually or in groups of up to four students.

Once the problem or innovation is approved, the instructor is responsible for identifying and appointing a qualified mentor for the student's proposed capstone project, often with the student's input or nominations. Other Level V instructors and subject matter experts (SMEs) with an understanding of the Capstone Project requirements are good candidates. The instructor will ensure the mentor has a copy of the Student Guide and Feedback Worksheet. If no mentor is assigned, the instructor serves in this role. Suggested instructions for mentors are below.

The instructor is responsible for selecting a venue (online or face-to-face), scheduling the presentation, and recruiting qualified panelists. A panel provides different perspectives and experience to inform feedback to students. Plan for 30 minutes per presentation, including about 10 minutes for audience and panelist Q&A.

The instructor and mentor jointly ensure that panelists receive copies of the properly branded paper and any presentation materials, with sufficient lead time for them to review and digest the materials. They should also provide the panelists with the Capstone Project Feedback Worksheet, available in the Level V course files. Suggested instructions for panelists are below.

When the student submits the final version of their paper after any revisions have been approved by the instructor, the instructor submits it to capstones@capnhq.gov. PowerPoint slides and other documents, including example products if appropriate, may also be submitted.

- Please name the document "yyyy-mm Title of Project". This will assist those reviewing the Capstone project.
- The preferred format is PDF unless the author intends the document to be editable. MP3, MP4, and PowerPoint are also acceptable.
- Projects with additional documents should be submitted as a ZIP file using the same naming convention.
- If the files are large (>1 Mb), please save the PDF using a reduced file size. PowerPoint slides can be saved as a PDF to reduce the file size.

If a project is completed by a group of students, the instructor can use the Peer Feedback Worksheet for each student to provide feedback on their team members' contributions, as well as their own.

Once the instructor approves the paper for submission to National, they can also post credit for the module.

Suggested Instructions for Level V Capstone Mentors:

Your role as a Capstone Mentor is to provide advice to the student(s) for completing their paper. You were selected because your experience in CAP or elsewhere can contribute to the students' learning. The paper should be their own work.

- Be engaged from the beginning in helping the students plan and execute whatever steps are necessary for project completion. Yours is not a formal approval requirement but rather "advice and consent."
- Be familiar with the guidance and expectations outlined in the Student Guide.
- Help the students clarify their problem statement or innovation and ensure the scope is defined so that it can reasonably be addressed within this assignment. Confirm the problem or innovation is of region and/or national significance.
- Help the students connect with subject matter experts in their topic area.
- Monitor and receive progress reports throughout the project, providing additional feedback as appropriate. Regular vector checks help you make minor course corrections rather than major changes or delays at the end. A general expectation is for students to provide status updates to their mentor at least monthly, more often if on a compressed timeline.
- Be responsive to the students. If you cannot respond to messages for an extended period, let them know when you can get back to them.
- Monitor and receive progress reports as the project report is prepared, including both the paper and the presentation.
- The paper should be formal because it will be sent to the National Innovation Team and National Staff upon completion. However, it is not required to be structured as an academic paper.
- Review drafts of the paper and presentation before the students consider them to be final. If the presentations are poorly received, it reflects on both the mentor and the students.

Suggested Instructions for Level V Capstone Panelists:

- Your role is to provide low-intensity, thoughtful, constructive feedback. Overly hostile or aggressive criticism is counterproductive. The papers include the student's recommendation on how to solve the problem or implement an innovative program, based on their research and experience. Feedback on why the presented solution may have challenges is OK, as is identifying a significant piece of data or information missed. But giving the impression to the presenter

"they don't know what they are talking about" is unwarranted. This is a learning opportunity for students and a chance for you to mentor.

- Be familiar with the guidance and expectations outlined in the Student Guide.
- Be prepared to ask questions about any gaps you notice when reviewing the materials in advance.
- After the presentation, you may recommend changes before the final versions are submitted to National, with thoughtful feedback about improvement. In most cases, these should be changes for clarity or factual correction, not fundamental "start over" revisions.
- Use the provided Feedback Worksheet to provide comments and recommendations. The scoring system is a sliding scale with examples provided across the range of possible points (i.e., you can use any whole number between 0 and the highest points for that category).