

Introduction to Capstone Project in

Introduction to the Capstone Project in Paramedicine

Paramedicine

(A concise, organized guide for students beginning their final integrative experience)

1. What Is a Capstone Project?

Aspect	Description
Purpose	Demonstrates mastery of core paramedicine competencies by applying theory to a real-world problem or innovation.
Scope	Typically 8-12 weeks of focused work, culminating in a written report, oral presentation, and (often) a practical artifact (e.g., protocol, educational tool, quality improvement (QI) plan).
Audience	Faculty advisors, clinical preceptors, peers, and sometimes external stakeholders (EMS agencies, health-system leaders, community groups).
Outcome	Evidence of critical thinking, evidence-based practice, leadership, and professional communication.

2. Core Learning Objectives

- Integrate Knowledge** – Synthesize anatomy, physiology, pharmacology, clinical assessment, and EMS operations into a cohesive solution.
 - Apply Evidence-Based Practice** – Locate, appraise, and translate current research into actionable recommendations.
 - Develop Professional Skills** – Project planning, data collection, analysis, written and oral communication, and stakeholder engagement.
 - Demonstrate Leadership & Ethics** – Identify ethical implications, promote patient safety, and propose sustainable improvements.
 - Reflect on Practice** – Articulate personal growth and future directions for professional development.
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3. Typical Project Types

Category	Example Topics	Typical Deliverables
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Quality?

Improvement (QI)

Clinical Research

Education & Training

Community Health

Technology & Innovation

Reducing on-scene time for cardiac arrests; improving pediatric airway management documentation.

Effectiveness of a new airway adjunct; outcomes of prehospital analgesia protocols.

Designing a simulation curriculum for mass casualty triage; creating a mobile app for medication dosing.

EMS role in opioid overdose outreach; evaluating EMS-based vaccination programs.

Implementing tele-EMS for rural calls; integrating wearable vitals into EMS dispatch.

Paramedicine

Process map, pre/post data, PDSA cycles, policy draft.

IRB-approved protocol, statistical analysis, manuscript draft.

Lesson plans, assessment tools, user-testing results.

Needs assessment, partnership plan, impact metrics.

System architecture, pilot data, cost-benefit analysis.

4. Project Lifecycle – Step-by-Step Guide

Phase	Key Tasks	Tips & Resources
1. Topic Selection	- Identify a gap or problem in your clinical setting. - Ensure relevance to EMS, feasibility, and alignment with program competencies.	Talk with preceptors, review agency QI logs, browse recent EMS literature.
2. Proposal Development	- Write a concise problem statement. - Define SMART objectives. - Outline methodology (literature review, data sources, tools). - Obtain faculty approval &, if needed, IRB clearance.	Use the program's proposal template; include a Gantt chart for timeline.
3. Literature Review	- Search PubMed, CINAHL, Cochrane, EMS-specific journals. - Summarize evidence, identify best practices, note gaps.	PRISMA flow diagram helps track search process.

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Phase

Key Tasks

Tips & Resources

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4. Methodology & Data Collection

- Choose quantitative (e.g., surveys) or qualitative (e.g., focus groups) methods.
- Develop data collection instruments (checklists, surveys).
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