

Note: These guidelines were created because single-semester teams need to be productive throughout the entire term to be successful. Full year teams should hit these same milestones, but the timing will vary widely depending upon the structure of the capstone class.

	Week 1: Foundation & Track Selection	Week 2: Problem Statement Development	Week 3: Systems Requirements Review (SRR)	Week 4: Design Generation	Week 5: Design Selection	Week 6: Divide & Conquer - Initial Development
Objectives	<ul style="list-style-type: none"> Form teams quickly Select C3 track Establish project structure 	<ul style="list-style-type: none"> Define clear, specific problem statement Begin understanding project scope 	<ul style="list-style-type: none"> Finalize problem statement Conduct Systems Requirements Review Understand project context 	<ul style="list-style-type: none"> Generate multiple design alternatives Fully characterize each option 	<ul style="list-style-type: none"> Select final design approach Justify selection with data 	<ul style="list-style-type: none"> Assign roles based on strengths Begin parallel work streams Start documentation
Deliverables	<ul style="list-style-type: none"> Finalized team composition Selected track Team name and logo created Initial schedule document created 	<ul style="list-style-type: none"> Research summary on track area Draft problem statement Initial research on track requirements 	<ul style="list-style-type: none"> Finalized problem statement Project description document Systems requirements documentation 	<ul style="list-style-type: none"> Create multiple distinct design concepts (8 to 10 is recommended) Comparison matrix with benefits/shortcomings 	<ul style="list-style-type: none"> Final design selection with justification Preliminary implementation plan 	<ul style="list-style-type: none"> Work breakdown structure Initial drafts of paper sections Preliminary design models/analysis
Action Items	<ul style="list-style-type: none"> Professor presents C3 challenge and tracks Students self-organize into teams Create shared documentation system where everyone logs their tasks/progress Establish weekly meeting times (2-3x per week) Assign team lead/manager role Review C3 rules, deliverables, and judging criteria Set up communication channels 	<ul style="list-style-type: none"> Each team member researches 2-3 different problem approaches Team shares and evaluates all ideas together Begin consolidating/hybridizing best aspects of different ideas Meet with professor and mentor to review direction Document rationale for problem selection 	<ul style="list-style-type: none"> Complete SRR presentation for advisors Refine problem statement based on feedback Begin identifying design constraints and requirements 	<ul style="list-style-type: none"> Each team member develops 2 design concepts Create comprehensive table evaluating all designs Document why each design would or wouldn't work Identify evaluation criteria (cost, feasibility, performance, etc.) Present all options to advisors 	<ul style="list-style-type: none"> Evaluate all 10 designs against criteria Down-select to top 2-3 candidates Conduct detailed analysis of finalists Make final selection (may combine elements from multiple designs) Get approval from professor and mentor Begin dividing work by expertise 	<ul style="list-style-type: none"> Assign tasks: paper writing, CAD/modeling, analysis, research, etc. Match assignments to individual strengths Begin creating aspects of the presentation/paper for each project aspect Start technical development work Weekly updates to professor and mentor (critical feedback loop)
SRR Components	<ul style="list-style-type: none"> Clear project description Benefits and potential flaws identified How project fits in the "big picture" Initial design requirements outlined Success criteria defined 					

Additional Notes:

Red Flags & Risk Mitigation

Warning Signs:

- Team members missing meetings or deadlines
- Lack of weekly progress
- Poor communication within team
- Students not engaging with mentor/professor
- Going down technical "rabbit holes"
- Scope creeps beyond manageable project
- Waiting too long to ask for help

Additional Notes:

Mitigation Strategies:

- Address issues immediately (Week 1-5 delays are critical)
- Increase meeting frequency if needed
- Reallocate work if someone is struggling
- Lean on advisors for guidance early
- Build in buffer time (Weeks 14-15)

Additional Notes:

Keys to Success (Summary)

- **Highly motivated team** - everyone must want to be there
- **Strict schedule** - professor enforces deadlines from Day 1
- **Engaged advisors** - both professor and mentor must be present and available
- **Early decision-making** - Weeks 1-5 set up entire semester
- **Constant communication** - within team and with advisors
- **Iterative development** - continuous improvement, not last-minute rushes
- **Accountability** - everyone does their part

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	Weeks 7-9: Engineering Development Phase	Week 10: Design Finalization	Week 11: Documentation Completion	Week 12: Refinement & Practice	Weeks 13-14: Final Polish & Submission	Week 15: Buffer Week
Objectives	<ul style="list-style-type: none"> •Execute primary engineering work •Develop detailed designs •Continue iterative documentation 	<ul style="list-style-type: none"> •Complete all design work •Wrap up engineering analysis •Finalize design decisions 	<ul style="list-style-type: none"> •Finish all documentation •Complete paper and presentation •Begin refinement phase 	<ul style="list-style-type: none"> •Polish all deliverables •Practice presentations •Prepare any additional materials 	<ul style="list-style-type: none"> •Final refinements •Submit all C3 deliverables •Complete university requirements 	<ul style="list-style-type: none"> •Backup time if team needs extra days •Final preparations before presentation •Contingency for unexpected delays
Deliverables	<ul style="list-style-type: none"> •Detailed engineering analysis •CAD models/simulations/prototypes (as applicable) •Evolving paper and presentation drafts 	<ul style="list-style-type: none"> •Finalized design •Complete technical documentation •Near-final paper draft •Near-final presentation draft 	<ul style="list-style-type: none"> •Completed technical paper (first full draft) •Completed presentation (first full draft) •All figures and supporting materials 	<ul style="list-style-type: none"> •Revised paper •Revised presentation 	<ul style="list-style-type: none"> •Final technical paper •Final presentation •Any additional C3 submission requirements •University capstone deliverables 	
Action Items	<ul style="list-style-type: none"> •Week 7: Core engineering calculations/modeling •Week 8: Refinement and validation of designs •Week 9: Complete primary technical work •Continuous paper/presentation development •Weekly critical reviews with professor and mentor •Iterate based on feedback (work in progress mindset) •Cross-team collaboration when members need help 	<ul style="list-style-type: none"> •Complete all outstanding technical work •Resolve any remaining design questions •Finalize figures, charts, and diagrams •Complete all sections of technical paper •Create complete presentation outline •Get comprehensive feedback from advisors 	<ul style="list-style-type: none"> •Finalize all paper sections •Complete presentation slides •Ensure consistency across all materials •Begin tweaking language, figures, and formatting •Practice presentation delivery •Submit drafts for thorough advisor review 	<ul style="list-style-type: none"> •Adjust figures for clarity and impact •Refine wording throughout paper and slides •Practice presentation skills and timing •Incorporate advisor feedback •Conduct practice presentations 	<ul style="list-style-type: none"> •Week 13: Final tweaks to presentation and paper •Week 14: Buffer week for any last-minute needs •Submit all C3 materials by deadline •Complete university capstone requirements •Final presentation practice runs •Prepare for Q&A scenarios 	
SRR Components						