Sample Capstone — Capture Management Engagement: $10–50M

A complete, worked graduate capstone: a mid-size firm's capture manager runs a large, multi-prime federal competition — teaming, price-to-win, discriminators, a full four-volume proposal with the color-team sequence, and the final-proposal-revision strategy that decides the competition.

> **What this is.** The assignment brief for the graduate capstone lives in `course/graduate-program-overview.md` (GC 690 — the applied culminating experience; GC 690T is the thesis rendering). This page is a **model answer** — a sample engagement showing what an excellent graduate capstone looks like, milestone by milestone, with the grading rubric at each step. It is built on a **fictional agency, requirement, competitors, and firm** so it can be worked freely in a classroom; a student's own capstone is grounded in a real, published, closed competition and, where the student has the authority, their own firm's next pursuit run under the program's discipline.
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> **Graduate altitude.** The undergraduate tier teaches you to *run* a pursuit. This sample is run at the altitude the M.S. demands: the **theory** of why the market behaves as it does (microeconomics, game theory, auction theory), the **research discipline** of measuring a claim before asserting it, and the **finance** of a FAR-compliant, DCAA-defensible price. The doctrine's stack-agnostic rule (doctrine/08) holds throughout: the artifacts are concepts, produced with your organization's tooling.

Tier: graduate (M.S. in Capture Management & Government Business Development) · **Course anchor:** GC 690 / GC 690T · **Term:** 14 weeks · **Format:** individual or small team, with a named capture lead who owns the whole pursuit · **Defense:** individual, before a panel of a practitioner and a faculty researcher · **Tools:** none required beyond paper, a whiteboard, or a spreadsheet.

The sample engagement

The fictional agency and requirement

> **NATIONAL CENTER FOR CRITICAL INFRASTRUCTURE ANALYTICS (NCCIA)** — a *fictional* federal research and analytics center within the Department of Commerce. NCCIA provides cross-sector critical-infrastructure risk assessment, threat analytics, and decision-support products to federal and state partners.
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> **NCCIA RFP 2027-001 — Integrated Security and Re-

silience Analytics Program (ISRA). A large analytic services program delivering continuous risk assessment, threat intelligence fusion, resilience modeling, and executive decision-support to NCCIA's operational directorate.

Key solicitation facts (abridged for teaching):

Fact	Value
Vehicle	Single-award IDIQ with task orders, full-and-open; small-business subcontracting plan required
Period	1 base year + 4 option years
Value	**$28M all-options** (the $10–50M band)
Incumbent	Vertex Federal Group (fictional) — large prime, 8-year incumbent, strong customer relationships
Competitive landscape	Vertex Federal Group · **TitanSystems** (fictional large defense prime) · **Meridian-Delta JV** (fictional small-business joint venture) · **Helios Analytics** (the student's firm)
Evaluation	Best-value tradeoff: **Technical (40%)** · **Management (25%)** · **Past Performance (20%)** · **Price (15%)**; cost realism applies
Key requirements	Named key personnel (Program Manager + Deputy + 4 leads); 35% small-business subcontracting goal; transition plan; security clearance posture for the senior team
Anticipated award flow	Competitive range → **discussions (FPRs)** → final proposal revision → source-selection decision

This is a **capture-management engagement**, not just a proposal exercise. The student plays the **capture manager** for Helios Analytics — the person who owns the pursuit as a business: shaping the team, the price, the discriminators, the production, and the final competitive move. Every milestone below is a decision a capture manager actually makes.

The firm: Helios Analytics (fictional)

A mid-size analytics and engineering firm, ~$160M annual revenue, strong in geospatial risk modeling and data fusion, growing but **not yet a proven prime** in NCCIA's sector. Helios has excellent technical talent and a healthy past-performance record in adjacent work, but it has never held a contract of this value as the prime, and it is not the incumbent. Its strategic problem — and the capstone's — is the classic mid-size-firm dilemma: *how do you take on the incumbent and a defense prime for a contract that would double your flagship-prime credibility, without betting the firm?*

The competitive landscape

Competitor	Posture	Threat to Helios	What it is vulnerable on
Vertex Federal Group (incumbent)	Incumbent, strong relationships, proven delivery	Highest	Recompete inertia; price creep; a program that has gone stale
TitanSystems (defense prime)	Deep security/defense bench, deep pockets	High on security-heavy factors	Cost structure; a government-civilian mission it treats as a sideline; past performance in the wrong flavor
Meridian-Delta JV (small-business JV)	New entrant JV; price-aggressive	Medium on price	Limited past performance; unproven delivery at this scale
Helios Analytics (our firm)	Best-fit analytics; national-lab partner; the right price	—	Not the incumbent; must prove it can run an IDIQ of this size as prime

The landscape teaches the first graduate lesson: **the fight is positional, not just technical.** Vertex wins on incumbency and relationships; TitanSystems wins on scale and security; Meridian-Delta wins on price; Helios can only win where its position is genuinely different — best-fit analytics, a named anchor partnership, and a price that is credible rather than lowest.

The graduate milestones, mapped to the pipeline

Week	Pipeline stage	Milestone	Deliverable
1	sense	Engagement kickoff; the pursuit as a business	Capture management charter; engagement plan
2	sense → qualify	Market segmentation and opportunity analysis	Bid/no-bid **gate** argued with theory (microeconomics of set-asides, incumbency)
3	score	Scoring at graduate altitude	**Score: research-grounded pWin × value** (threshold gate) — evidence cited, survivorship named
4	pursue	Teaming / JV decision	**Teaming posture recommendation** with a partner-rubric defense
5	pursue	Win strategy and discriminators	Capture plan: customer map, incumbent analysis, discriminators, ghost themes
6	pursue	The ORBITAL at firm scale	Full ORBITAL (seven axes) with a defensible budget
7	design	Proposal strategy and production plan	Proposal management plan: volumes, page budget, writer/reviewer rosters, schedule

Week	Pipeline stage	Milestone	Deliverable
8	design	Pricing strategy and price-to-win	**Price-to-win analysis**: cost floor, competitive range, posture, affordability ceiling
9	design	Volume production (I–IV)	Draft volumes: Technical, Management, Past Performance, Pricing — cost-technical reconciliation
10	audit	**Pink → Red** color teams	Findings log; Red ratings resolved per the exit rules
11	audit	**Gold → Black-Hat**	Gold disposition; Black-Hat score-credibility pass; final price reconciliation
12	audit → submit	Readiness + submission mechanics	**Readiness gate**; white-glove; submission
13	negotiate	**FPR strategy**	Final-proposal-revision plan: what to hold, what to move, the price negotiation posture
14	negotiate → learn	Defense + post-competition analysis	Defense; FPR outcome analysis vs. the published award

Per-milestone deliverables — graduate-altitude "done"

Week 1 — the pursuit as a business

Deliverable: capture management charter + engagement plan. The charter names the capture manager as the **owner with process** (doctrine/04): the gates, the decision rights, the ethical walls (OCI posture — Helios's own consultants must not touch source-selection-sensitive information), and the budget for the pursuit itself. The engagement plan is the schedule that makes the pursuit *finishable*: a Gantt-style map of production, reviews, and decision points with the internal deadline set a full week before the portal closes.

Week 2 — the bid/no-bid gate, argued with theory

Deliverable: gate memo. The undergraduate gate asks *can we* — the graduate gate asks *should we, and on what theory?* The memo uses the **microeconomics of procurement** (GC 501) and **competitive strategy** (GC 510): why incumbency dominates awards, what a set-aside's small-business subcontracting goal does to the competitive set, and the **winner's curse** hazard if Helios tries to buy the win on price. The call is **BID**, with a portfolio frame: this pursuit's expected value, its pursuit cost, and its strategic option value (a flagship-prime reference) justify the engagement.

Week 3 — the score, with research discipline

Deliverable: scored pursuit sheet at graduate altitude. pWin is argued factor by factor against the seven-factor composite, and every factor is cited — to a published award, an incumbent record, or a forecast. The **research discipline** (GC 530) shows up in the honesty: the team names the **survivorship hazard** (only pursued bids resolve), the **incumbency discount** the score must carry, and the observation base for each factor claim. Composite: **pWin 0.38 × value $28M** — below the canonical **0.42** threshold, which forces the hard graduate question: *is the composite the whole decision, or is portfolio/strategic value a legitimate override — and who owns that call?* The capture manager's answer: pursue **with conditions** (the teaming decision in Week 4 and the discriminator plan in Week 5 must move the score above the bar before the readiness gate), and the override is recorded as a governance decision with the owner named — not a silent exception.

Week 4 — the teaming / JV decision

Deliverable: teaming posture recommendation + partner rubric. The decision set: **solo prime**, **JV with a research partner**, or **prime with subcontractors**. The evaluation is a **partner rubric** (capability fit, past-performance match, set-aside eligibility, vehicle access, partner risk) — scored, weighted, and argued, the same rigor the color teams demand. The recommendation: **prime, with two named teammates** — a national laboratory (fictional partner) as the anchor research teammate whose reputation and data assets are the Technical volume's backbone, and a HUBZone-certified small business as a subcontractor to strengthen the 35% small-business plan. **No JV**: the governance cost and the past-performance entanglement outweigh the benefit when the customer already knows Helios. The memo also names what the team *declined* and why — a deliberate, documented no, not a default.

Week 5 — win strategy and discriminators

Deliverable: capture plan. The **customer map** (who at NCCIA decides, what they are measured on, the program office's relationship to Vertex), the **incumbent analysis** (what Vertex does well, where eight years have left it stale — the pricing creep, the aging toolchain, the turnover risk), and the **win strategy**: Helios wins on **discriminators** — a **named anchor partnership** with the national lab, a **quantified outcome target** (a published accuracy/resilience metric the program has never hit), and a **sustainability/continuation mechanism** (a reusable data asset the contract leaves behind). The **ghost themes** are named and suppressed: Helios will *not* claim scale it cannot staff, security clearance depth it does not have on day one, or a price it cannot defend to DCAA.

Week 6 — the ORBITAL at firm scale

Deliverable: full ORBITAL. The seven axes — Objective, Resources, Budget, Indicators, Transport, Activities, Logistics — filled at the scale of a $28M program: the named key personnel as resources, an indicators tree that maps to the Technical factor weights, a budget that reconciles with the pricing volume, and a transport/logistics plan that answers the transition question head-on (how Helios takes over from Vertex without losing the customer's confidence).

Week 7 — proposal strategy and production plan

Deliverable: proposal management plan. The plan the color teams will be judged against: the four volumes and their page budgets **allocated to the evaluation weights** (the 40% Technical factor gets the deepest storyboards), the **writer/reviewer independence rule** (no reviewer evaluates a section they drafted — GE 640's core discipline), the locked reviewer roster carried from Pink through Black-Hat, and the schedule that leaves time for every color. The plan also names the **production risk** the whole effort will be measured on: page-limit discipline, the compliance spine, and the cost-technical reconciliation deadline.

Week 8 — price-to-win

Deliverable: price-to-win analysis. The price is built as a **position, not a guess** (GC 540, doctrine/05): the **cost floor** (a FAR-compliant cost buildup with labor categories, hours, ODCs, subcontract, indirect rates, and fee —

DCAA-defensible), the **competitive range** (Vertex's likely price, TitanSystems' price, Meridian-Delta's aggressive floor), and the **affordability ceiling** (what NCCIA can budget for the program). The recommended price sits *below the incumbent's likely price, above the aggressive floor, and inside the realism band* — credible enough for cost realism, competitive enough to matter, and defensible under audit. The posture is set now, and the FPR strategy in Week 13 will move it.

Week 9 — volume production (I–IV)

Deliverable: the four volumes, drafted and reconciled. Technical (the national-lab partnership, the quantified outcome target, risk, security, transition), Management (org, key personnel, staffing, subcontract management — the 35% plan), Past Performance (three to five relevant, clean, recent citations — and the deliberate *exclusion* of anything with claims or performance issues), and Pricing (the cost buildup, BOE for every meaningful line, reconciled line-for-line with the Technical volume). The test the volumes must pass: **they tell the same story** — the Technical volume's promises are staffed in Management, evidenced in Past Performance, and priced in Pricing.

Week 10 — Pink → Red

Deliverable: color-team findings log. Pink (compliance and coverage — every Section L/M requirement mapped and answered) then **Red** (independent reviewers scoring the full draft as NCCIA evaluators, factor by factor, with the cost-technical reconciliation checked). The facilitation discipline is graded: independent reviewers, locked roster, findings that name factor + evidence + revision. The blunt exit rule applies: **any Red rating on a critical factor blocks submission** — and the log must show the Red findings being *resolved*, not logged and ignored.

Week 11 — Gold → Black-Hat

Deliverable: Gold disposition + Black-Hat score-credibility pass. Gold is the executive submit/revise/withdraw decision: the disposition is **SUBMIT**, with the residual risks named (not-incumbent; first prime at this scale) and the pricing posture defended to the executive owner. **Black-Hat** runs last — a hostile evaluator and a rival capture manager in one pass — and its job is to protect against over-optimistic scoring: pull the pWin estimate back to a defensible number and log the final findings. Black-Hat cannot override the other colors; it sharpens them.

Week 12 — readiness and submission

Deliverable: readiness gate + submission. The last gate that can stop a bad submission: white-glove production polish (no content changes by rule —

if substance is being edited here, the sequence was skipped earlier), the compliance re-run, the signed representations and certifications, the small-business subcontracting plan checked against the 35% goal, and the mechanical portal submission against the internal deadline. The readiness decision is recorded against the gate charter written in Week 1.

Week 13 — FPR strategy

Deliverable: final-proposal-revision plan. The competition now moves to the **negotiate** corridor (Shipley's fourth stage). NCCIA has established the competitive range and entered **discussions**; the team's plan answers the two moves that decide the outcome: 1. **The price move.** What to hold and what to move in the FPR — where the price can flex within the cost floor (usually fee and selected ODCs, never the labor-hours that cost realism would flag), and the explicit discipline *not* to chase Meridian-Delta into the winner's-curse zone. 2. **The technical move.** Which Red/Black-Hat findings the FPR will strengthen, with the discipline that the FPR is a **revision, not a rewrite** — nothing in the FPR may contradict the submitted volumes. The FPR plan names the **negotiation posture** (GC 540): what Helios will concede, what it will hold, and the walk-away line below which the pursuit stops being rational.

Week 14 — defense and post-competition analysis

Deliverable: defense + FPR outcome analysis. The capture manager presents the engagement (the full arc: gate → score → teaming → price → color teams → FPR) to a panel of a practitioner and a faculty researcher, and defends the decisions under questioning — including the hard ones (why the score sat below 0.42 and why Helios pursued anyway). Then, because the competition would have run, the team analyzes the **published award** against the plan: who won, at what price, and what the FPR strategy would have needed to change. The outcome analysis is graded on honest comparison, not on being right — and it feeds the next pursuit's pWin factors, which is the point.

Grading rubric per milestone

The same four-level scale as every capstone — **Not Ready · Developing · Proficient · Distinguished** — applied at graduate altitude: theory must be *used* to explain, research must be *cited*, and the price must be *defensible under audit.*

Week / milestone	Criteria	Not Ready	Proficient	Distinguished
1 · Charter	Gates, decision rights, ethical walls, pursuit budget	No owner; no walls; no budget	Charter names the owner-with-process, the gates, and the pursuit cost	OCI posture designed before the work; the pursuit is managed as a business
2 · Bid/no-bid gate	Argued with theory, not vibes	Call asserted; no market theory	Incumbency, set-asides, and winner's-curse used to argue the call	Portfolio/option-value frame; the "should we" is answered, not just "can we"
3 · Score	Research-grounded pWin; survivorship named	Score asserted; no sources	Factors cited; survivorship named; threshold gate recorded	The below-0.42 override is a *governance decision with a named owner*, not a silent exception
4 · Teaming/JV	Partner rubric, scored and weighted	Posture chosen by instinct	Rubric applied; recommendation defended; the declined option documented	The no-JV call is argued on governance cost, not convenience
5 · Win strategy	Discriminators credible; ghost themes suppressed	Themes claimed, not supported	Named-anchor, quantified-target, sustainability-mechanism discriminators	Ghost themes named and suppressed; the strategy would change if Vertex's posture changed

Week / milestone	Criteria	Not Ready	Proficient	Distinguished
6 · ORBITAL	Seven axes at firm scale; budget defensible	Axes thin; budget a wish	All axes real; budget reconciles with pricing	Indicators tree maps to the evaluation weights
7 · Proposal plan	Volumes allocated to weights; reviewer independence	No plan; writers review themselves	Page budget follows Section M; independence and locked roster	The plan anticipates the production risk that would sink a less-disciplined effort
8 · Price-to-win	Cost floor, range, ceiling; posture	Price is a guess	Floor/range/ceiling argued; posture set	Price sits inside the realism band and survives a DCAA-style audit walk
9 · Volumes I–IV	Four volumes tell one story; PP clean	Volumes contradict each other	Consistent; PP citations relevant and clean	Technical promises are staffed, evidenced, and priced — every seam defended
10 · Pink → Red	Compliance + evaluator stance; findings resolved	Friendly review; vague findings	Findings name factor + evidence + revision; exit rules honored	Red findings resolved before the next color; the log shows the package improving
11 · Gold → Black-Hat	Submit decision; score credibility	Gold a rubber stamp; no Black-Hat	Gold disposition recorded; Black-Hat pulls the score back	Residual risks named before the panel finds them; the score is defensible

Week / milestone	Criteria	Not Ready	Proficient	Distinguished
12 · Readiness	White-glove; compliance re-run; portal mechanics	Readiness a formality	Readiness checked against the Week-1 charter	The 35% plan and reps/certs verified; nothing left to the last hour
13 · FPR strategy	What to hold, what to move; no rewrite	No plan; price chased	Price flexes within the floor; technical move named	The walk-away line is set; the winner's curse is refused
14 · Defense + analysis	Survives the panel; learns from the outcome	Evasive; no analysis	Clear, credible; doctrine used under questioning	FPR outcome analysis updates the next pWin; the lesson is stated plainly

Composite weight (graduate): Capture strategy and teaming 25 · Price-to-win and finance 25 · Proposal production and color teams 25 · Governance and readiness 15 · Defense 10 — the graduate tier weights the *business of the pursuit*, not just the paperwork.

Where this maps to Shipley + Dream DNA

> **The industry canon.** The ISRA engagement is the Shipley lifecycle at full altitude (`literacy/industry-standard-canon.md`): the bid/no-bid and threshold gates in Weeks 2–3 are Shipley's **pursuit decision** (gate 3) with a portfolio frame; the teaming decision and capture plan in Weeks 4–6 are **capture readiness** (gate 4); the proposal management plan, volumes, and Pink/Red/Gold/Black-Hat sequence in Weeks 7–12 are **proposal planning and production** (gate 5) and **submission mechanics** (gate 6); and Week 13's FPR strategy is the **negotiate** stage the Shipley ladder names but most courses never reach. The APMP Body of Knowledge is the vocabulary anchor throughout — capture plan, win themes, discriminators, ghost themes, color teams, compliance matrix, basis of estimate, final proposal revision.

The Dream DNA. At this scale the machine side of the doctrine is not a study aid; it is the *operating system* the capture manager works with (`align/concept-to-system-map.md`). The Week-3 score is the **seven-factor composite** operationalized for a $28M IDIQ. The **0.42 threshold gate** and the below-threshold override are the governance decisions the pipeline's threshold gate exists to force. The Week-6 ORBITAL is the same seven-axis object the machine encodes, and the Week-9 **four-volume bundle** is the same shape the DNA corpus turns an ORBITAL into for a FAR Part 15 competition. The Week-13 FPR strategy is where the human reads the machine's calibration data honestly — the probability-of-win estimate, the funder/agency calibration bands, the drift warnings — and decides the final move with a clear head. A graduate who can run this engagement on paper can walk into any capture organization in the industry, read its machinery in a day, and run the same discipline on the firm's tooling.

The capstone in one sentence

A $28M, multi-prime capture engagement run as a business: a bid/no-bid call argued with theory, a research-grounded score that forces an honest governance override, a teaming decision scored against a partner rubric, a price-to-win that is a position and not a guess, a four-volume proposal that survives Pink, Red, Gold, and Black-Hat, and a final-proposal-revision strategy that refuses the winner's curse — defended before a panel that has sat in the source-selection room.