

Santa Rosa City Schools Course Proposal


Construction 1

Proposal Submitted By: Matt O'Donnell

- 1) Needs Statement: Discuss how this course fits into your Site and/or the District's goals. Attach minutes of meetings where this course was approved at site or district leadership meetings.

Santa Rosa High School is expanding Career Technical Education offerings in the **Building and Construction Trades** to provide students with clear pathways to **livable-wage, high-demand** careers in our region. *Construction 1* is the **first course in a two-year sequence** that aligns with SRCS goals to increase **A-G completion, CTE pathway completion, and college/career readiness** for all students. The course delivers **hands-on, standards-aligned** instruction in construction safety, blueprint reading, measurement, framing, concrete, drywall, plumbing, and electrical systems, while integrating **Common Core Mathematics and English Language Arts** and the **California CTE Building and Construction Trades Anchor and Pathway Standards**. Students develop foundational technical and employability skills, earn **OSHA-10** certification, and participate in **work-based learning** with local industry partners, supporting equitable access to postsecondary programs and **registered apprenticeship** opportunities.

To ensure transferability and streamline local approval, this course adapts an **existing UC "a-g" approved (G) elective** syllabus to SRHS facilities, schedules, and community partnerships. Adoption advances District priorities around **college and career readiness, industry-aligned pathways, and regional workforce needs** identified by local employers and labor market data.

This course was approved by the SRHS Building and Construction Trades Industry Advisory Board unanimously via email from 9/7/2025 to 9/17/2025. Attached is a PDF of the email thread.  [Advisory Course Approval.pdf](#)

This course was also discussed at the CTE Dept. Chair meeting on 11/17/25.

- 2) Graduation Requirements: Specify which requirement is met. (High School only)

A–G Elective (pending UC approval) and CTE

3) UC a-g Requirements: Specify which requirement is met. (High School only)

College-Preparatory Elective (G) - pending UC approval

- 4) Explain the rationale for course addition or modification. How does this fit in with district/site goals. If this course is replacing a current course, which course is it replacing and why? Will this course require new sections? Be explicit.

This course will serve as the introductory course for the Building and Construction Trades Career Technical Education pathway (year 1 of 2). It replaces the “Introduction to Cabinetry” course to align with regional labor-market demand and wages; **general construction** offers broader, higher-demand, higher-wage opportunities than entry-level cabinetmaking.

The course advances district/site goals to expand **high-quality, UC “g”-approved** Career Technical Education that leads to **livable-wage** employment, integrates academic standards, and increases access to **work-based learning**.

5) Explain the measurable learning outcomes

Upon completion of the course, students will be able to:

- ***Demonstrate safety and compliance***
 - *Pass written shop and jobsite safety assessments with a score of **85% or higher**.*
 - *Correctly select and use **personal protective equipment** for **4 of 4** task scenarios.*
 - *Identify **10 common hazards** on a mock site and write incident-prevention notes for each with **100% alignment** to the class safety checklist.*
 - *Complete **OSHA 10** training modules and pass the authorized assessment (or score **85%+** on the in-course final if card issuance occurs later).*

- ***Operate and maintain tools***
 - *Identify, set up, operate, and shut down core hand and power tools (tape, square, levels, circular saw, drill/driver, miter saw) with **zero critical safety violations** on a skills check.*
 - *Perform routine maintenance (e.g., blade/bit changes, inspections) meeting all steps on a **10-point** rubric.*

- ***Apply measurement, math, and layout***

- *Read an imperial tape to 1/16 inch, convert between fractions/decimals/metric with 90% accuracy, and verify dimensions.*
- *Establish square using the 3-4-5 method and a framing square within ±1/8 inch over 8 feet.*
- *Compute area, perimeter, and volume for materials and produce a takeoff with ≤10% waste allowance.*
- ***Read blueprints and produce documentation***
 - *Interpret basic residential plans (site, floor, wall section) and identify 20 standard symbols with 90% accuracy.*
 - *Produce a bill of materials from a simple plan set whose actual usage is within ±10% of the estimate.*
 - *Author a one-page procedure sheet for a lab task meeting 8/10 technical writing criteria (clarity, sequence, terminology, measurements).*
- ***Construct basic framing***
 - *Frame a 4-8 ft wall section to specification (studs 16 in. on center ±1/8 in., plumb ±1/8 in. over 8 ft, correct headers/king/jack studs), scoring 85%+ on a 12-point performance rubric.*
 - *Follow correct nailing/screw schedules with 0 missed or misplaced fasteners in a 25-fastener check.*
- ***Place and finish small concrete work***
 - *Build square, level formwork within ±1/8 inch and level ±1/8 inch across the form.*
 - *Mix, place, finish, and cure concrete per a provided mix/sequence; surface achieves Level 2 float at 8/10+ on the finishing rubric.*
- ***Install and finish drywall***
 - *Measure, cut, hang, and fasten drywall with seams centered on studs and standard fastener spacing (walls ≤12 in., ceilings ≤8 in.), meeting 85%+ on a 12-point checklist.*
 - *Tape and mud to a Level 3 finish (no tool marks, smooth joints) scoring 8/10+ on the finishing rubric.*
- ***Complete introductory electrical and plumbing tasks***
 - *Wire a basic switch-light-receptacle mock-up with correct polarity, grounding, box fill, and device terminations; circuit passes continuity and GFCI tests on first inspection.*

- *Assemble a drain-waste-vent section with solvent-welded fittings at 1/4 inch per foot \pm 1/16 inch slope; assembly passes a 2-minute leak test.*
- ***Plan projects and communicate professionally***
 - *Develop a final project plan (scope, drawings, steps, safety plan, materials, budget) with a cost estimate within \pm 10% of actual spend.*
 - *Maintain a weekly lab journal documenting measurements, decisions, and safety reflections that meets 8/10 ELA rubric criteria.*
 - *Deliver a 5-7 minute oral presentation on the final build that meets 4/5 speaking criteria (clarity, accuracy, visuals, timing, professional language).*
- ***Assemble a complete portfolio and demonstrate career awareness***
 - *Compile a portfolio with safety certificates, tool checklists, blueprint annotations, takeoffs, framing/drywall/concrete rubrics, plumbing/electrical checkoffs, and a final project reflection; portfolio is 100% complete per the checklist.*
 - *Describe at least three Building and Construction Trades careers, including typical duties and training pathways, scoring 85%+ on the career knowledge check.*

6) Course Description (To be used in the course catalog)

Construction 1 is the first course in a two-year Building and Construction Trades pathway. This year-long, project-based class introduces students to core construction practices through hands-on labs and integrated academics. Students learn jobsite safety and personal protective equipment; tool identification and use; blueprint reading and layout; precise measurement; and foundational trade skills in framing, concrete, drywall, plumbing, and electrical. Math and English Language Arts are embedded throughout (geometry, estimation, technical reading/writing, and presentations), and students document their growth in journals, checklists, and a developing portfolio. Work-based learning includes guest speakers, industry demonstrations, and the opportunity to earn OSHA-10 safety certification. The year culminates in a student-designed and constructed final project that integrates multiple systems and is presented to peers and industry partners. Open to grades 9-12; recommended for students considering careers in the skilled trades, engineering, or related technical fields. (UC a-g: "g" College-Preparatory Elective; CTE—Building and Construction Trades.)

Detailed Course Design

(Course design should include the objectives, activities, assessments, and standards to be addressed in this course.)

Unit 1 – Introduction to Construction & Safety (Weeks 1-5)

Objectives

- Explain why safety culture matters; identify common job-site hazards and describe mitigation strategies (JHAs, hierarchy of controls).
- Demonstrate correct selection, inspection, donning, and doffing of PPE (eye, hearing, head, hand, respiratory, foot).
- Read and apply OSHA/Cal-OSHA signage, SDSs, and shop-specific rules.
- Safely set up and use core shop tools covered this year (orientation level): utility knife, hammers, circular saw, jig saw, reciprocating saw, drills/impact drivers, screw guns, table saw (demo + safety checkout), drill press, pneumatic nailers, ladders, and planers (demo + safety checkout).
- Maintain a **safety journal**: daily near-miss/observation logs and reflections tied to standards.
- Perform emergency procedures (first aid roles, eyewash/shower, fire extinguisher types, e-stop drills, evacuation and accountability).

Activities & Labs (Sequenced)

Week 1 – Safety Foundations

- **Safety Culture Launch & Near-Miss Gallery Walk:** Students rotate through posters of real-world incident summaries (struck-by, caught-in/between, slips/trips/falls, electrical, silica, noise). Teams annotate root causes and prevention.
- **PPE Fit & Function Lab:** PPE station circuit (hard hats/date codes; ANSI Z87+ eye pro; earplugs—fit test; glove types and cut ratings; boots—ASTM). Exit ticket: match task→PPE + justification.
- **Safety Journal Setup:** Students build a simple table of contents and log template; first entry: “Hazards I control vs. hazards I influence.”

Week 2 – Hazard ID & Controls

- **Shop & Yard Hazard Hunt:** Students use color-coded tags to flag housekeeping, trip hazards, cord management, flammables storage, compressed air rules. Teams propose mitigations using hierarchy of controls.
- **SDS & Chemical Handling Mini-Lab:** Students locate SDS for adhesives, solvents, and joint compound; extract PPE, first aid, and storage. Quick-write: “How to read an SDS fast.”
- **Emergency Response Drill:** Map egress; identify extinguishers (ABC/CO₂), pull-pin PASS practice (water trainer), eyewash drill, muster role call.

Week 3 – Hand & Power Tool Fundamentals

- **Knife & Hand Tool Safety Practicum:** Correct blade changes, cut direction, body mechanics, safe pass/return; micro-assessment checklist.
- **Portable Power Tool Start-Up Checks:** Trigger locks, guards, cords, GFCI test, battery handling; tag-out procedure practice for defects.
- **Cutting Fundamentals Demo:** Instructor demos circular saw, jig saw, reciprocating saw—line of cut, blade selection, splinter control, stance, kickback causes.

Week 4 – Machines, Air, and Access

- **Table Saw & Planer Safety Demo + Board-Handling Clinic:** Kickback mechanics, riving knife/splitter, guard use, push sticks/blocks, outfeed control; planer snipe causes and prevention; students pass a non-powered “dry run” proficiency before live cuts (in later units).
- **Drill Press & Bit Selection:** Chuck key discipline; speed charts; clamp/vise practice; through-hole & depth stop technique.
- **Nailers & Compressors:** Sequential vs. contact trip, air hose handling, loading, nail path awareness; supervised “dry-fire simulator” board (no fasteners) to develop muzzle discipline.

Week 5 – Ladders, Housekeeping, and Safety Systems

- **Ladder Lab:** Inspect ratings, angle setup (4:1), three points of contact, tie-off; “unsafe vs safe” photo critique.
- **Housekeeping & Material Handling:** Broom brigade zones, scrap bins, sharp disposal; team lift vs. mechanical assist; dolly & hand truck use.
- **Safety Quiz & Reflection:** Written assessment + journal prompt: “My top 3 personal safety commitments.”

Formative Checks: Do-nows (hazard IDs on photos), exit tickets, quick oral check-offs at stations.

Summative: Safety quiz; safety journal review; participation & station rubric.

CTE Pathway (D) Standards: D1.0, D2.0, D3.0, D4.0

CTE Anchor Standards: A1.0, A2.0, A4.0, A5.0, A6.0, A7.0, A9.0, A10.0, A11.0

CRP: 1,2,4,5,6,7,8,9,10,11,12

CCSS Math: N-Q.1-3; A-CED.1-3; A-REI.1,3; G-CO.1; G-SRT.6-8; G-MG.1-3; S-ID.1; S-IC.1

CCSS ELA/Lit: RST.9-10.1-4,7,9 / RST.11-12.1-4,7,9; RST.11-12.3;

WHST.9-10.2,4,7,8,10 / WHST.11-12.2,4,7,8,10; SL.9-10.1,4-6 / SL.11-12.1,4-6;

L.9-10.1-6 / L.11-12.1-6

Unit 2 – Blueprint Reading & Measurement (Weeks 6-10)

Objectives

- Read title blocks, scales, line types, elevations/sections, schedules, and trade symbols.
- Convert between **US customary and metric**, apply tolerances, compute takeoffs.
- Perform accurate **layout** using tape, builder's level/laser, string line, plumb bob, framing/combination/speed squares.
- Write **step-by-step build instructions** extracted from prints.

Activities & Labs

Week 6 – Print Literacy Bootcamp

- **Blueprint Scavenger Hunt:** Teams find 25 items across plan sets—scale, north arrow, door schedule, legend, detail callouts.
- **Scale & Conversion Drills:** Architect's scale and tape stations; compute $1/4"=1'-0"$ conversions; mm↔inch; tolerance scenarios (“is this within $\pm 1/8$?”).

Week 7 – Views, Symbols, & Specs

- **Orthographic to Object:** Students sketch a 3-view from a simple block and reverse; connect to framing elevations and sections.

- **Symbol Bingo:** Electrical, plumbing, framing, and finish symbols; timed identification; create a pocket symbol key.
- **Spec Reading Mini-Lab:** Extract fastener schedule, stud spacing, header note; highlight mandatory vs. optional language.

Week 8 – Field Layout

- **Control Lines:** Snap chalk lines; verify square via 3-4-5 and diagonal method; mark plate layout.
- **Leveling & Plumb:** Use spirit and laser levels; reading errors; “calibrate your eye” exercise.
- **Error Analysis:** Intentional mis-measure stations; students diagnose and correct.

Week 9 – Instructional Writing & QA

- **Write the Build:** Students draft procedural steps (imperative voice, numbered, with safety notes) for building their layout square project; peer edit using a technical writing checklist.
- **Measure Twice, Cut Once Simulation:** Timed cutting cards to exact lengths with tolerance scoring.

Week 10 – Project: Layout Square

- **Build & Verify:** Fabricate square to plan; check 90° with diagonal method; document deviations; revise procedures if needed.
- **Mini-Presentation:** 2-minute walk-through of their build instructions and QC data.

Formative: Whiteboard conversions, symbol flash rounds, peer review of procedures.

Summative: Print-reading quiz; layout practical; layout square project & write-up.

CTE Pathway (D): D2.0, D3.0, D4.0

CTE Anchor: A1.0, A2.0, A4.0, A5.0, A7.0, A9.0, A10.0, A11.0

CRP: 1,2,4,5,7,9,10,11,12

CCSS Math: N-Q.1-3; A-CED.1-3; A-REI.1,3; G-CO.1; G-SRT.6-8; G-GPE.4;

G-GMD.1-3; G-MG.1-3

CCSS ELA/Lit: RST.11-12.3; RST.9-10.1-4,7,9 / 11-12.1-4,7,9;

WHST.11-12.2,4,7,8,10; SL.9-10/11-12.1,4-6; L.9-10/11-12.1-6

Unit 3 – Framing Basics (Weeks 11-15)

Objectives

- Identify framing members and their functions (plates, studs, headers, sills, cripples, bracing, sheathing).
- Generate a cut list from drawings; layout on plates at typical spacings.
- Perform safe, accurate cuts; assemble to plumb/level/square; verify with QC checklist.
- Present research comparing framing materials (species, grades, engineered lumber).

Activities & Labs

Week 11 – Systems & Planning

- **Wall Anatomy Lab:** Hands-on labeled mockup; students tag components and load paths.
- **Cut List Generation:** From wall plan with door/window opening; compute stud counts, header lengths, sheathing panels, and waste.
- **Tool Micro-Lessons:** Miter saw accuracy & safe hands; circular saw plunge/bevel cuts; impact driver torque management.

Week 12 – Layout & Sheathing

- **Plate Layout Practicum:** Mark king/jack/cripple studs, rough opening, and corners at 16" o.c.; instructor spot checks for common mistakes.
- **Sheathing Planning:** Panel layout to minimize seams; fastener schedules; edge gapping.

Week 13 – Cutting & Assembly

- **Cut Station Rotation:** Students cut to list; color-code by member type; verify lengths with peer QC.
- **Assembly Day 1:** Nail patterns; squaring wall on deck; temporary bracing; measure diagonals; correct racking.

Week 14 – Openings & Sheathing Install

- **Header & Sill Install:** Clamp-assisted assembly; flush faces; toenailing vs. end nailing debate (code excerpts).
- **Sheathing Install:** Fastener spacing practice (edges vs. field), panel staggering, window/door cutouts.

Week 15 – Research Share & Inspection

- **Materials Research Talks:** 3-slide lightning talks: SPF vs. DF, LVL vs. built-up; sustainability notes.
- **Inspector for a Day:** Teams exchange walls and complete a QC checklist (plumb/level/square, nailing patterns, sheathing, opening sizes), then deliver a brief punch list.

Formative: Tool check-offs; layout spot checks; QC sign-offs.

Summative: Framed wall section (rubric); research presentation; reflection.

CTE Pathway (D): D6.0 (+ D2.0, D3.0, D4.0)

CTE Anchor: A1.0, A2.0, A5.0, A6.0, A9.0, A10.0, A11.0

CRP: 1,2,4,5,6,7,8,9,10,11,12

CCSS Math: N-Q.1-3; A-CED.1-3; A-REI.1,3; G-SRT.6-8; G-CO.1; G-GMD.1-3;

G-MG.1-3

CCSS ELA/Lit: RST.9-10/11-12.1-4,7,9; WHST.11-12.2,4,7,8,10; SL.11-12.1,4-6;

L.11-12.1-6

Unit 4 – Concrete Basics (Weeks 16-18)

Objectives

- Explain concrete components (cement vs. concrete, aggregates, water-cement ratio, admixtures) and curing.
- Build forms, place reinforcement, install embeds/anchors, place and finish small pours.
- Calculate volumes, yield, and waste; plan for curing and quality.

Activities & Labs

Week 16 – Materials & Mixes

- **Aggregate & Paste Lab:** Sieve comparison of fine vs. coarse aggregate;

water-cement demos showing slump change (mock slump with sand mix); discuss strength trade-offs.

- **Reinforcement Talk:** Mesh vs. rebar, cover, chairs, simple tie patterns.
- **Formwork Mini-Build:** Assemble a small reusable form; discuss release agents and bracing.

Week 17 – Form, Place, Finish

- **Volume Calculations:** Compute pour volume + 5-10% waste; mix batching plan.
- **Placing & Finishing:** Screed, bull float, edging, broom finish vs. steel trowel; control joint options for small elements.
- **Anchors & Embeds:** Set a sleeve/anchor bolt within tolerance; verify location.

Week 18 – Cure & Evaluate

- **Curing Methods:** Wet cover vs. curing compound; temperature & moisture effects.
- **Project:** Stepping stone (or paver) pour; students document process with photos and QC checks.
- **Evaluation:** Surface finish, dimensions, corner integrity; reflection linking results to variables (mix, placement, timing).

Formative: Mix planning worksheet; formwork inspection checklist.

Summative: Concrete project rubric; written reflection.

CTE Pathway (D): D5.0 (+ D2.0, D3.0, D4.0)

CTE Anchor: A1.0, A2.0, A5.0, A6.0, A9.0, A10.0, A11.0

CRP: 1,2,4,5,6,7,8,9,10,11

CCSS Math: N-Q.1-3; A-CED.1-3; G-GMD.1-3; G-MG.1-3; S-ID.1; S-IC.1

CCSS ELA/Lit: RST.11-12.3; RST.9-10/11-12.1-4,7,9; WHST.11-12.2,4,7,8,10; SL.11-12.1,4-6; L.11-12.1-6

Unit 5 – Drywall Basics (Weeks 19-23)

Objectives

- Identify drywall types (standard, MR/green, Type X, thicknesses) and

fasteners/adhesives.

- Accurately measure, cut, hang, tape, and finish drywall; plan takeoffs and estimate compound.
- Compare finishing systems (paper vs. mesh tape, 3-coat schedule, texture options) and dust control.

Activities & Labs

Week 19 – Materials & Planning

- **Board Selection:** Where to use MR vs. Type X; code notes; fastener type selection.
- **Takeoff Exercise:** From interior wall plan, compute board count, seam strategy, and mud quantity.

Week 20 – Cutting & Hanging

- **Cutting Lab:** Score-and-snap, router/jab saw for openings, beveling factory vs. field edges.
- **Hanging:** Horizontal vs. vertical discussion; fastening schedules (edges/field, stand-ups around openings); back-blocking demo.

Week 21 – Taping & First Coat

- **Paper vs. Mesh Trials:** Compare cracking risk; embed angle tape; wipe technique.
- **Butt vs. Tapered Joints:** Strategies to hide butt joints; feathering out width.

Week 22 – Second/Third Coats & Sanding

- **Coat Timing & Shrinkage:** Cure time, humidity considerations.
- **Sanding & Dust Control:** Pole sander technique; dust masks; vacuum sanders and traps.

Week 23 – Texture & QA

- **Texture Options:** Orange peel, knockdown; small test boards.
- **Project Build:** Install drywall on training wall and finish to Level 3-4; peer evaluation using a finish rubric; short plan presentation.

Formative: Takeoff checks; micro-critiques on joints; peer feedback circles.
Summative: Hands-on install & finishing rubric; plan presentation.

CTE Pathway (D): D7.0 (+ D2.0, D3.0)

CTE Anchor: A1.0, A2.0, A5.0, A6.0, A9.0, A10.0, A11.0

CRP: 1,2,4,5,6,7,8,9,10,11,12

CCSS Math: N-Q.1-3; A-CED.1-3; G-GMD.1-3; G-MG.1-3

CCSS ELA/Lit: RST.9-10/11-12.1-4,7,9; WHST.11-12.2,4,7,8,10; SL.11-12.1,4-6;
L.11-12.1-6

Unit 6 – Introduction to Plumbing & Electrical Systems (Weeks 24-29)

Objectives

- **Plumbing:** Identify materials (PVC/ABS, copper, PEX), fittings, and joining methods; read simple DWV and supply diagrams; set slope; rough-in a basic drain + supply; test for leaks.
- **Electrical:** Identify conductors, cable types, device boxes, and protective devices; read a simple circuit diagram; wire a switch loop and a light; verify continuity and polarity on a **de-energized** trainer.
- Apply trade-specific safety practices and codes (awareness level).

Activities & Labs

Week 24 – Safety, Codes, & Symbols

- **Code Awareness:** Intro to residential code excerpts; locating info (table of contents/index); symbol chart for plumbing/electrical.
- **Lockout/Tagout (LOTO) Simulation:** Tagging panels/valves (mock); meter safety rules; GFCI rationale.

Week 25 – Plumbing: Materials & Joining

- **Material ID & Cutting:** Marking, cutting, and deburring PVC/ABS; copper prep.
- **Joining Stations:** Solvent welding (primer/cement), copper sweat (instructor demo with safety shield), PEX crimp/ring practices on benches.

- **Slope & Support:** 1/4" per foot hands-on jig; pipe hangers spacing.

Week 26 – Plumbing: Layout & Test

- **DWV Mock-Up:** Trap and vent relationship; sanitary tee vs. wye selection; island vent discussion.
- **Fixture Rough-In:** Set a lav or sink stub-outs at code heights; install escutcheons.
- **Leak Test:** Low-pressure water test on a closed loop (classroom safe), visual inspection, and marking leaks for rework.

Week 27 – Electrical: Fundamentals & Devices

- **Wire & Cable ID:** Gauge, insulation, jacket markings; color coding for conductors and grounds.
- **Meters & Testers:** Continuity, basic voltage awareness (demo only), polarity tests on low-voltage trainers; safe probe handling.
- **Device Terminations:** Strip lengths; screw-side vs. back-wire; pigtails; wirenut technique.

Week 28 – Electrical: Circuits & Enclosures

- **Box Fill & Mounting:** Box volume calc with conductor counts; proper cable clamps; grounding conductors.
- **Switch & Light Circuit Build:** Layout a simple single-pole switch controlling a light; students assemble on mock studs, then continuity/polarity test on de-energized rigs; final energize via instructor-controlled low-voltage supply (or demonstration board).

Week 29 – Integrated Mock Wall

- **Team Project:** Combine a small DWV/supply run and a switched light on a framed mock wall per plan; perform leak and continuity checks; label components; create a one-page as-built diagram.
- **Peer Walkthroughs:** Teams present system function and safety choices.

Formative: Station check-offs; symbol quizzes; code-lookup tasks.

Summative: Plumbing & electrical practicals; group layout artifact; short quiz.

CTE Pathway (D) Plumbing: D10.1-D10.10

CTE Pathway (D) Electrical: D11.1-D11.10

(plus D2.0, D3.0 where math/prints apply)

CTE Anchor: A1.0, A2.0, A4.0, A5.0, A6.0, A7.0, A9.0, A10.0, A11.0

CRP: 1,2,4,5,6,7,8,9,10,11,12

CCSS Math: N-Q.1-3; A-CED.1-3; A-REI.1,3; F-IF.4; G-SRT.6-8; G-GMD.1-3; G-MG.1-3; S-ID.1; S-IC.1

CCSS ELA/Lit: RST.11-12.3; RST.9-10/11-12.1-4,7,9; WHST.11-12.2,4,7,8,10; SL.11-12.1,4-6; L.11-12.1-6

Unit 7 – Final Integrated Project & Presentation (Weeks 30-36)

Objectives

- Plan, schedule, budget, and construct a small structure/feature integrating framing plus at least one of: concrete, drywall, plumbing, electrical.
- Produce a print package (sketches or CAD), materials takeoff, safety plan, and QA checklist; maintain a build log and cost tracker.
- Present project to peers/industry partners with reflective analysis of process and outcomes.

Activities & Milestones

Week 30 – Project Brief & Teams

- **RFP-Style Prompt:** Constraints (footprint, budget cap, time window, safety/space); deliverables list.
- **Team Roles:** PM, Safety Lead, Procurement/Logistics, QC Lead; norms & communication plan.

Week 31 – Design & Estimating

- **Concept Sketch to Working Drawings:** Orthographic views, key dimensions; code-aware decisions.
- **Takeoffs & Budget:** Quantify lumber, panels, fasteners, devices, pipe/fittings, concrete; vendor price lookups; contingency %.

Week 32 – Safety & Schedule

- **Site-Specific Safety Plan:** JHAs per phase; PPE matrix; housekeeping and

material staging.

- **Schedule (Gantt):** Phase breakdown with dependencies (e.g., framing→rough-in→sheathing/drywall→finish).

Weeks 33-35 – Build & Inspect

- **Fab & Assembly:** Teams execute builds, check against drawings, log deviations, update as-builts.
- **Integrated Systems:** If selected, pour pad/footing; run a simple DWV/supply or switch/light; hang & finish drywall.
- **Inspections:** Interim QC and instructor “permit” signatures per phase closeout.

Week 36 – Commission & Present

- **Commissioning:** Function checks; punch list; remedial actions.
- **Formal Presentation:** 6-8 minutes: design intent, standards used (students cite D-standards), math/ELA integration, costs vs. estimate, schedule variance, safety metrics, lessons learned.
- **Portfolio Drop:** Build log, photos, as-builts, QA sheets, budget tracker, reflection.

Formative: Design reviews; takeoff audits; mid-build QC.

Summative: Capstone build rubric; documentation packet; presentation.

CTE Pathway (D): D2.0, D3.0, D4.0, D5.0, D6.0, D7.0, D8.0, D10.0, D11.0 (as applicable per team)

CTE Anchor: A1.0-A11.0 (capstone)

CRP: 1-12 (capstone)

CCSS Math: N-Q.1-3; A-CED.1-3; A-REI.1,3; F-IF.4; G-CO.1; G-SRT.6-8; G-GPE.4; G-GMD.1-3; G-MG.1-3; S-ID.1; S-IC.1

CCSS ELA/Lit: RST.11-12.3; RST.9-10/11-12.1-4,7,9; WHST.11-12.2,4,7,8,10; SL.11-12.1,4-6; L.11-12.1-6

7) Is this course modeled after an approved A-G Course on the UC Portal?

- Yes: District and course: Val Verde School District School District Construction 1 (can add the link) UC_Construction I (9-12)_VVSDSD
- No

8) Budget- budget figures must be included even if they are an estimate.

Projected Costs	Start-up	Ongoing
Personnel (Not to include classroom instructor unless a new section is needed)	NA	CTE Credentialed Teacher
Instructional Material Supplies per student (textbooks, software, etc.)	\$200	\$100
Services (training, equipment maintenance, contracts, etc.)	\$5000	\$5000
Capital Outlay (remodeling, technology, etc.)	NA	NA
Total Projected Costs	\$20,000	\$12,500

9) Instructional Materials- must include estimates for new materials even if none have been selected. Place in the chart above.

Type	Publisher	Title	ISBN	Author	Copyright	# Have/Need

10) Funding Source(s) for Costs and Instructional Materials

Grants (indicate specific grant and grant timeline)	
Categorical Funds (include related programs)	
Career Technical Education (must be for an approved CTE course)	CTE Incentive Grant, Perkins Grant - Annual
Department Funds	
Other (be specific)	

11) Appendix of Additional Documents

* Required additional documents include meeting minutes where the course was discussed and approved

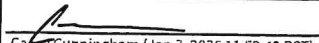





 Advisory Course Approval.pdf

 2025-2026 CTE Dept. Chair Meeting

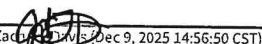



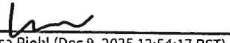

Signatures Page

Course name: Construction 1

12) District Principal Review and Approvals:

Principal's Signatures	Site	Approved / Not Approved
 Casey Cunningham (Jan 7, 2026 11:52:49 PST)	EAHS	Approve
 Amy Wiese (Jan 7, 2026 13:42:59 PST)	MCHS	Approve
 April Santos (Jan 7, 2026 12:38:00 PST)	MHS	Approve
 Andrea Correia (Jan 7, 2026 14:47:30 PST)	PHS	Approve
 Kimberly L. Johnson-Clissold	SRHS	Approve
 Donna Garibaldi (Jan 7, 2026 14:28:58 PST)	RHS	Approve

13) District Department Chair Review and Approvals:

Department Chair Signatures	Site	Approved / Not Approved
 Zachary D. Dyer (Dec 9, 2025 14:56:50 CST)	EAHS	Approve
 Stephanie Thomas (Dec 23, 2025 20:28:37 PST)	MCHS	Approve
 Bao Alderson (Dec 9, 2025 13:03:24 PST)	MHS	Approve
 Maureen McCabe (Dec 19, 2025 15:07:03 PST)	PHS	Approve
 Lisa Plehit (Dec 9, 2025 12:54:17 PST)	SRHS	Approve
 Colleen Spiers (Dec 19, 2025 13:31:16 PST)	RHS	Approve

Course Catalog Information (To be filled by the District Office):

Course Number	TBD
Course Short Title:	Construction I
Course Title:	Construction I
Number of Credits:	10
Grade Span:	9-12
Graduation Requirement:	Z
Prerequisites:	None
Course Department:	CTE
State Course Code:	7341
A-G Subject:	"G"
CTE Pathway:	Building and Construction Trades Sector - Residential and Commercial Construction Pathway
Other Information:	This course is a redesign of an existing Cabinetry course at SRHS