

Practicum in Construction Technology Overview

- **Course:** Two-credit capstone practicum ● **Schedule:** Double-block classes
- **Total Weeks:** 36 (4 grading periods of 9 weeks each)
- **TEKS Abbreviations:** PCT = Practicum in Construction Technology §127.147; ES = CTE Employability Skills §127.15(d)(2)
- **Course application may include approved local construction projects or paid/unpaid work-based experiences.**
Example: PCT1(A) = Practicum TEKS Strand 1, subskill A; ES2(A) = Level 3/4 Employability Skills, subskill A

GP	Wks	Unit & Focus	Major Learning Tasks & Assessments	Integrated TEKS	Extension Activities
1	1–2	Unit 1 – Employability, Safety & Project Orientation	Establish professional and work-site expectations; teamwork; technical communication; time management; work ethic; respect and equal opportunity; discrimination/harassment awareness; occupational safety/first aid; leadership/management; career development, credentials, apprenticeships, entrepreneurship, and legal/ethical responsibilities. Introduce yearlong construction project.	ES2(A–L) PCT1(A)	Work-site expectations agreement; safety/first-aid review; employability self-assessment; career/credential research; project concept selection.
1	3–4	Unit 2 – Project Management: Initiation, Planning & Scheduling	Identify all project-management phases; define project scope; determine/acquire resources; develop project schedule; establish roles, milestones, deadlines, and documentation procedures.	PCT1(A–C) ES2(B–E,J)	Project charter; resource list; Gantt-style schedule; team roles; project-management conference.
1	5–6	Unit 3 – Codes, Laws, Standards & Regulations	Identify where codes, laws, standards, and regulations apply; locate authoritative requirements; interpret and comply with applicable construction requirements throughout the project.	PCT2(A–C) ES2(I,L)	Code-research activity; OSHA/building-code application; compliance checklist; plan review.
1	7–9	Unit 4 – Project Flowcharts, Construction Math & Measurement	Assess task needs; sequence tasks logically; estimate time requirements; create a complete project flowchart. Apply measurement and mathematical concepts needed for project planning and layout.	PCT3(A–D) PCT6(C) ES2(C–E)	Project flowchart; measurement/layout exercises; schedule-vs-flowchart comparison; GP1 project review.
2	10–12	Unit 5 – Tools, Materials, Technology & PPE	Select and use advanced tools, materials, processes, and technologies appropriate to tasks; evaluate technology choices and factors influencing their use; reinforce safe operation and work-site expectations.	PCT7(A–C) ES2(A,I,L)	Tool/technology selection matrix; PPE/safety inspection; advanced-tool demonstrations; technology evaluation.
2	13–14	Unit 6 – Problem Solving, Design Decisions & Quality	Develop or improve the project using a problem-solving strategy; analyze proposed technological solutions; apply decision-making techniques to select solutions that best meet project requirements.	PCT4(A–C) ES2(B–D)	Design/problem brief; alternatives analysis; decision matrix; quality-improvement recommendation.
2	15–17	Unit 7 – Estimating, Bill of Materials & Project Budget	Develop a complete bill of materials; prepare project cost list and budget; compare alternatives and determine strategies to minimize cost while maintaining project requirements.	PCT5(A–C) PCT6(C) ES2(C–E)	Quantity/cost estimate; bill of materials; project budget; value-engineering/cost-reduction proposal.
2	18	Semester Exam (GP 1–2)	Cumulative first-semester written and performance assessment covering employability, project planning, codes, flowcharting, technology selection, problem solving, and estimating.	PCT1–7 as taught ES2(A–L)	Project-plan audit; technical skills check; employability reflection; semester project conference.
3	19–21	Unit 8 – Exterior & Interior Construction Application	Execute project work using the approved management plan, schedule, codes, flowchart, budget, and selected technologies. Apply advanced construction	PCT1(A–C), PCT2(A–C), PCT3(A–D), PCT4(A–C), PCT5(A–C), PCT7(A–C) ES2(A–J,L)	Construction lab/project build; progress log; quality checks; resource/schedule updates; supervisor/teacher feedback.

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			processes to exterior/interior project components while monitoring quality and progress.		
3	22–24	Unit 9 – Doors, Windows, Hardware & Systems Integration	Continue project execution with attention to sequencing, resources, codes, technology selection, problem solving, cost control, and integration of construction components and systems.	PCT1–5 PCT7(A–C) ES2(A–J,L)	Systems coordination activity; installation/project tasks; change-order scenario; schedule and budget monitoring.
3	25–26	Unit 10 – Technical Reports, Presentations & Applied STEM	Write technical reports; deliver technical presentations; identify and explain mathematical and science concepts used in construction activities; justify project decisions with evidence.	PCT6(A–D) ES2(C)	Technical progress report; project presentation; construction-math explanation; science-in-construction analysis.
3	27	Unit 11 – Sustainability & Emerging Construction Technology	Evaluate technology in authentic construction situations and describe factors influencing technology use, including efficiency, sustainability, safety, cost, materials, and project constraints.	PCT7(A–C) PCT4(B–C) PCT5(C) ES2(C,K)	Emerging/green technology comparison; sustainability recommendation; technology cost-benefit analysis.
4	28–31	Unit 12 – Capstone Build: Execute, Monitor & Control	Carry out the major capstone build using the complete project-management cycle. Monitor schedule, resources, codes, quality, cost, and technology decisions; solve problems and document changes while demonstrating Level 3/4 employability skills.	PCT1(A–C), PCT2(A–C), PCT3(A–D), PCT4(A–C), PCT5(A–C), PCT6(A,C–D), PCT7(A–C) ES2(A–L)	Capstone construction; daily/weekly project logs; budget and schedule variance analysis; safety/compliance checks; team performance evidence.
4	32–34	Unit 13 – Capstone Completion, Closeout & Portfolio	Complete and close the project; verify requirements and code compliance; reconcile materials/budget; evaluate technology and problem-solving decisions; assemble representative planning, technical, and construction evidence.	PCT1(A–C), PCT2(C), PCT3(D), PCT4(A–C), PCT5(A–C), PCT6(A–D), PCT7(A–C) ES2(A–L)	Punch list; final budget; closeout report; before/after evidence; technical portfolio; self/team evaluation.
4	35	Unit 14 – Showcase & Technical Presentation	Present the completed construction project to an authentic audience. Explain and justify project-management decisions, code compliance, costs, mathematical/science applications, technology choices, challenges, and solutions.	PCT6(A–D) PCT1–5, PCT7 reinforced ES2(A–L)	Formal project showcase; technical presentation; Q&A/defense; stakeholder feedback; career-readiness reflection.
4	36	Semester Exam (GP 3–4)	Cumulative second-semester written/practical assessment emphasizing capstone execution, technical communication, applied STEM, advanced technology, project closeout, and employability.	PCT1–7 ES2(A–L)	Final performance assessment; portfolio verification; capstone reflection; individual employability conference.

TEKS Coverage Checklist

Practicum in Construction Technology §127.147

TEKS Strand	YAG Unit(s)	TEKS Codes	Coverage Description
(1) Project Management Plan	1–4, 8–9, 12–13	PCT1(A–C)	Project-management phases from initiation through closing; resources; project scheduling.
(2) Codes, Laws, Standards & Regulations	3, 8–9, 12–13	PCT2(A–C)	Identify where requirements apply; locate appropriate requirements; interpret and comply with them.
(3) Project Flowchart	4, 8–9, 12–13	PCT3(A–D)	Assess task needs; justify task sequence; assess time frames; plot a completed project flowchart.
(4) Problem Solving / Critical Thinking / Decisions	6, 8–9, 11–13	PCT4(A–C)	Improve a project through problem solving; analyze technological solutions; select solutions using decision-making techniques.
(5) Project Costs	7, 8–9, 11–13	PCT5(A–C)	Complete bill of materials; project cost list/budget; cost-minimization strategies.
(6) Communication, Mathematics & Science	4, 7, 10, 12–14	PCT6(A–D)	Technical reports and presentations; mathematical and science concepts used in construction projects.
(7) Advanced Tools, Materials, Processes & Technology	5–6, 8–9, 11–13	PCT7(A–C)	Select/use appropriate technology; evaluate technology use; explain factors influencing technology choices.

Required CTE Employability Skills Coverage

TEKS Strand	YAG Unit(s)	TEKS Codes	Coverage Description
§127.15(d)(2) Level 3/4 Employability Skills	1; reinforced throughout	ES2(A–L)	Professional conduct; teamwork; written/oral technical communication; time management; punctuality/dependability/responsibility; respect for differences; meritocracy/hard work/equal opportunity; discrimination/harassment consequences; occupational health/safety/first aid and applicable regulations; management vs. leadership; career development through education/training, credentials, internships/apprenticeships and entrepreneurship; legal/ethical responsibilities.

Alignment note: This reusable YAG uses the district internal Practicum Construction Tech YAG as the instructional context and preserves its progression from employability/safety, tools/materials, construction applications, sustainability, and capstone work. The internal document lists Construction Technology I-style CN standards; those were not used as the governing TEKS for this practicum. The TEKS in this document are aligned to the current Practicum in Construction Technology §127.147 requirements and the required Level 3/4 CTE Employability Skills in §127.15(d)(2). Week 18 and Week 36 are reserved for cumulative semester assessments, and no unit crosses the semester boundary.