

General Construction | Two Year Program: Scope & Sequence

Year 1, Semester 1

GC101 General Construction I (18 Weeks)

District Pre-Assessment

Unit 1 - 1 Week (Days: 5c)

Lab and Classroom Rules & Employability Skills:

- Syllabus, Procedures, Rules
- Shop Orientation/tour
- CTSO Introduction (Leadership Skills): Officer Elections, Officer Training, first chapter meeting.
- Professional Skills: 6A-C, 8A-I
- Academic Standards: ELA.11-12.W.4, ELA.11-12.W.5, ELA.11-12.RI.10, ELA.11-12.SL.3, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7
- Work-based Learning: Guest speaker
- Technical Standard: 1.1-1.24, 2.11-2.6

Unit 2- 11 Weeks (Days: 30C/30L)

NCCER Core Curriculum:

- OSHA 10 Training
- Construction Safety, Hand & Power Tools, Construction Math, Rigging, Communication & Employability skills.
- Labs: Tool familiarity, octagon projects, dog houses.
- Certification: OSHA 10, NCCER Core
- CTSO Integration (Leadership Skills): SkillsUSA Officer Training, Officer Elections, Chapter Meetings
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.W.4, ELA.11-12.W.5, ELA.11-12.SL.4, ELA.11-12.SL.6, ELA.11-12.W.5, ELA.11-12.RI.10, ELA.11-12.W.5, ELA.11-12.RI.10, ELA.11-12.W.4, ELA.11-12.W.9, ELA.11-12.L.4, ELA.11-12.RI.2, ELA.11-12.W.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 6.EE.A.2, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, A-CED.A.1, G-GMD.A.3
- Work-Based Learning: Guest Speaker, job application (resume)
- Technical Standard: 1.1-1.11, 2.1-2.3, 3.1-3.3, 4.1-4.8

Unit 3 - 1 Week (Days: 2C/3L)

Blueprints and Construction Documents:

- Theory, Equipment & Lab Application
- Labs: Print Drawing, construction models/blueprint reading.
- CTSO Integration (Leadership Skills): Chapter Meetings
- Work-Based Learning: Industry current events
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C

- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: Integrated project with professionals, workplace visit
- Technical Standard: 4.0, 4.2, 4.5

Unit 4 - 2 Weeks (Days: 5C/5L)

Masonry:

- Theory, Tools & Block Laying
- CTSO Integration (Leadership Skills): AZ Masonry Expo, AZ Construction Expo, Chapter Meeting, SkillsUSA Fall Leadership Conference
- Work-Based Learning: Industry current events, Integrated project with industry partner (AZ Masonry Council), guest speaker, virtual exchange with partner, simulated lab experiences (brick laying, mortar mixing etc.)
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, ELA.11-12.SL.3, ELA.11-12.SL.4, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Technical Standard: 6.1-6.6

Unit 5 - 4 Weeks (Days: 10C/10L)

Projects:

- Work-Based Learning: Real world application of knowledge, skills & standards, field trips, guest speakers.
- CTSO Integration (Leadership Skills): SkillsUSA State Fall Leadership Conference, Community Service Project, Chapter Meetings.
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, ELA.11-12.RI.10, ELA.11-12.RI.10, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3

Year 1, Semester 2

GC102 General Construction II (18 Weeks)

Unit 6 - 3 Weeks (Days: 7C/8L)

Intro to Plumbing and Electrical:

- Components, Theory & Installation
- Labs: Pipe cutting/fitting, copper pipe sweating, basic electrical components and wiring.
- CTSO Integration (Leadership Skills): SkillsUSA Arizona Conference, Chapter Meeting.
- Work-Based Learning: Guest Speaker, Industry current events
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Technical Standard: 10.2-10.4, 14.1-14.7, 13.1-13.7

Unit 7 - 2 weeks (Days: 5C/5L)

Site Layout:

- Theory, Equipment & Lab Application
- Work-Based Learning: Guest Speaker/guest project - parking lot site layout.
- CTSO Integration (Leadership Skills): Chapter Meeting
- Work-Based Learning: Industry current events, guest speakers, Integrated project with professionals, workplace visit.
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, ELA.11-12.W.8, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Technical Standard: 5.1-5.3

Unit 8 - 1 Week (Days: 2C/3L)

Concrete:

- Theory, Tools & Forms
- Work-Based Learning: Guest Speaker -
- CTSO Integration (Leadership Skills): Chapter Meeting
- Work-Based Learning: Industry current events
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: Integrated project with professionals, workplace visit
- Technical Standard: 16.1-16.4

Unit 9 - 2 Weeks (Days: 5C/5L)

Floor Systems:

- Components, Materials/Spans & Framing
- Work-Based Learning: Guest Speaker - framing

- CTSO Integration (Leadership Skills): SkillsUSA Competition Preparation, Chapter Meeting
- Work-Based Learning: Industry current events
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: Career Fair
- Technical Standard: 7.1, 7.4-7.5

Unit 10 - 2 Weeks (Days: 5C/5L)

Wall Systems:

- Components, Materials/Spacing & Framing
- CTSO Integration (Leadership Skills): Chapter Meeting
- Work-Based Learning: Industry current events
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: Field trip
- Technical Standard: 7.3, 8.1-8.4

Unit 11 - 6 Weeks (Days: 15C/15L)

Projects:

- Real world application of knowledge, skills & standards
- CTSO Integration (Leadership Skills): SkillsUSA Competition Preparation, Chapter Meeting
- Work-Based Learning: Industry current events
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: School Based Enterprise
- Technical Standard 1.1 thru 8.4, 16.1 thru 16.4

Unit 13 - 2 Weeks (10C)

- Class review and final pep
- District Assessment

Year 2, Semester 1

GC201 - General Construction III (18 Weeks)

Unit 1 - 1 Week (Days: 5c)

Lab and Classroom Safety, Rules & Employability

Skills:

- Syllabus, Procedures, Rules
- Shop Orientation
- CTSO Introduction (Leadership Skills): Officer Elections, Officer Training
- Professional Skills: 6A-C, 8A-I
- Academic Standards: ELA.11-12.W.4, ELA.11-12.W.5, ELA.11-12.RI.10, ELA.11-12.SL.3, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7
- Work-based Learning: Guest speaker
- Technical Standard: 1.1-1.24, 2.11-2.6

Unit 2- 5 Weeks (Days: 12C/13L)

Joist/Roof Applications:

- Components
- Materials/Spacing
- Installation
- CTSO Integration (Leadership Skills): Chapter Meeting
- Work-based Learning: Truss plant field trip
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.W.6, ELA.11-12.L.4, ELA.11-12.RI.2, ELA.11-12.SL.3, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: mock interview, job app resume, job shadow, guest speaker
- Technical Standard: 7.2, 9.1-9.5

Unit 3 - 2 Weeks (Days: 10C/10L)

Doors/Windows:

- Components, Materials, & Installation
- CTSO Integration (Leadership Skills): SkillsUSA Week, Chapter Meeting
- Work-based Learning: Avanti field trip
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: informational interview/virtual exchange with industry partner
- Technical Standard: 10.5

Unit 4 - 5 Weeks (Days: 12C/13L)

Exterior/Interior Finish:

- Components, Materials, & Installation
- CTSO Integration (Leadership Skills): SkillsUSA Region 5 Conference, Chapter Meeting

- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: guest speaker
- Technical Standard: 10.1, 10.6, 11.1-11.4, 12.3, 15.1-15.6

Unit 5 - 5 Weeks (Days: 25L)

Projects:

- Real world application of knowledge, skills & standards, field trips, guest speakers.
- Project: Mini House materials, tools, and preparations
- Certification: NCCER Construction Technologies
- CTSO Integration (Leadership Skills): SkillsUSA National Skills & Leadership Conference, Community Service Project, Chapter Meeting
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, ELA.11-12.RI.10, ELA.11-12.RI.10, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3

Semester Exam

Year 2, Semester 2

GC202 - General Construction IV (18 Weeks)

Unit 6 - 1 Weeks (Days: 5L)

Continued - Exterior/Interior Finish:

- Components, Materials, & Installation
- CTSO Integration (Leadership Skills): SkillsUSA Region 5 Conference, Chapter Meeting
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: guest speaker
- Technical Standard: 10.1, 10.6, 11.1-11.4, 12.3, 15.1-15.6

Unit 7 - 5 Weeks (Days: 10C/15L)

Stairs:

- Materials and Layout
- CTSO Integration (Leadership Skills): Chapter Meeting
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.W.5, ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: Field Trip
- Technical Standard: 12.1 – 12.2

Unit 8 - 5 Weeks (Days: 10C/15L)

Advanced Electrical/Plumbing/Basic HVAC:

- Components, Theory & Installation
- CTSO Integration (Leadership Skills): SkillsUSA Arizona Conference, Chapter Meeting
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: Guest Speaker
- Technical Standard: 10.2, 14.1-14.7, 13.1-13.7

Unit 7 - 9 Weeks (Days: 10C/20L)

Projects:

- Real world application of knowledge, skills & standards
- Certification: NCCER Construction Technologies
- CTSO Integration (Leadership Skills): SkillsUSA National Skills & Leadership Conference, Community Service Project, Chapter Meeting
- Professional Skills: 1.A-D, 2.A-C, 3.A-E, 4.A-F, 5.A-E, 6.A-C, 7.A-C, 8.A-I, 9.A-C
- Academic Standards: ELA.11-12.L.4, ELA.11-12.RI.2, ELA.11-12.RI.10, ELA.11-12.RI.10, 5.NF.B.3, 5.NF.B.6, 5.NF.B.7, 6.RP.A.3, 7.EE.B.3, 7.RP.A.3, 7.G.B.4, 8.G.B.7, G-GMD.A.3
- Work-Based Learning: Student Based Enterprise
- Technical Standards: 1.0 thru 16.0

Unit 10 - 2 Week (10C)

ADE Technical Skills Assessment

Arizona Department of Education (ADE)
Common AZCCR Math Standards (CAMS)
English Language Art Standards (ELAS)
National Center for Construction Education and Research
(NCCER)