

# General Construction Technology | One Year Program: Scope & Sequence

## Year 1, Semester 1

GC103 Construction Technologies I (19 Weeks)

### District Pre-Assessment

#### Unit 1 (5 Weeks)

##### NCCER Core Curriculum:

- Construction Safety, Power Tools, Construction Math, Rigging, Communication & Employability skills
- Certification: OSHA 10, NCCER Core
- CTSO Integration (Leadership Skills): SkillsUSA Officer Training, Officer Elections, 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.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 2 (5 Weeks)

##### Masonry:

- Theory, Tools & Block Laying
- CTSO Integration (Leadership Skills): AZ Masonry Expo, AZ Construction Expo, 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.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
- Work-Based Learning: Integrated project with industry partner, guest speaker, virtual exchange with partner, simulated lab experience
- Technical Standard: 6.1-6.6

#### Unit 3 (3 Weeks)

##### Site Layout:

- Theory, Equipment & Lab Application
- CTSO Integration (Leadership Skills): SkillsUSA Fall Leadership 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, 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
- Work-Based Learning: Integrated project with professionals, workplace visit
- Technical Standard: 5.1-5.3

#### Unit 4 (2 Weeks)

##### Concrete:

- Theory, Tools & Forms
- 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.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 5 (2 Weeks)

##### Floor Systems:

- Components, Materials/Spans & Framing
- CTSO Integration (Leadership Skills): SkillsUSA Competition Preparation, 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: Career Fair
- Technical Standard: 7.1, 7.4-7.6

#### Unit 6 (2 Weeks)

##### Wall Systems:

- Components, Materials/Spacing & Framing
- 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.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 7 (1 Week)

##### Projects:

- Real world application of knowledge, skills & standards
- CTSO Integration (Leadership Skills): SkillsUSA Competition Preparation, 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: School Based Enterprise
- Technical Standard 1.1 thru 8.4, 16.1 thru 16.4

#### **Semester Exam**

## Year 1, Semester 2

GC104 - Construction Technologies II  
(17 Weeks)

### Unit 8 (5 Weeks)

#### **Joist/Roof Applications:**

- Components
- Materials/Spacing
- Installation
- 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.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 9 (2 Weeks)

#### **Doors/Windows:**

- Components
- Materials
- Installation
- CTSO Integration (Leadership Skills): SkillsUSA Week, 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: informational interview/virtual exchange with industry partner
- Technical Standard: 10.5

### Unit 10 (3 Weeks)

#### **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 11 (2 Weeks)

#### **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 12 (1 Week)

#### **Electrical/HVAC:**

- Components, Theory & Installation
- Certification: NC3 Multimeter
- 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: 10.2-10.4, 14.1-14.7

### **ADE Technical Assessment**

### Unit 13 (1 Week)

#### **Plumbing:**

- Materials, Theory & Installation
- CTSO Integration (Leadership Skills): SkillsUSA End of Program Celebration, 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.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 interviews, job application, job shadowing
- Technical Standard: 13.1-13.7

### **District Post-Assessment**

### Unit 14 (3 Weeks)

#### **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: 1.1 thru 16.4

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