

**Germantown High School
Career & Technical Education
Course Syllabus**

COURSE: **Structural Systems II**
INSTRUCTOR: Ms. Argodale
CLASS PERIODS: 6th-7th, Classroom S-101, Shop S-100, and/or Virtually

Course Description

Structural Systems II is an advanced-level course that builds on the introductory skills learned in the Fundamentals of Construction and Structural Systems I courses. This course will explore advanced framing, the physics of structural loads, and the coverings and finishes of structural systems. Upon completion of this course, proficient students will be able to install interior and exterior finishing, including roofing, siding, thermal and moisture protection components, drywall, doors, and trim. Throughout the course, students will interpret construction drawings to complete projects, implementing material estimating procedures and safe working practices. Standards in this course also expand on principles of the construction industry and delve deeper into business and project management strategies. Students will continue compiling artifacts for inclusion in their portfolios, which they will carry with them throughout the full sequence of courses in this program of study. Standards in this course are aligned with Tennessee State Standards for English Language Arts & Literacy in Technical Subjects, Tennessee State Standards in Mathematics, Tennessee Physical Science Standards, Tennessee Physics Standards, and the National Center for Construction Education and Research (NCCER) Curriculum.

Program of Study Application

This is the third course in the Structural Systems program of study. Flexibility is built in to offer this course for either one or two credits, depending on school capacity and teacher background. Whether offered for one or two credits, this course can feed into a fourth-level Construction Practicum course in which students can apply the skills learned throughout the program of study toward the completion of an in-depth, semester- or year-long work-based learning (WBL) apprenticeship or internship. For more information on the benefits and requirements of implementing this program in full, please visit the Architecture & Construction website at <https://tn.gov/education/article/cte-cluster-architecture-construction/>

Industry Certifications

Students in this course will test to earn industry certification from three different sources:

1. Occupational Safety and Health Administration (OSHA) 10-Hour Safety Certification (OSHA-10).
2. NCCER Industry Certification in the fields of Architecture and Construction.
3. Home Builders Institute (HBI) Pre-Apprenticeship Certificate Training (PACT).

Completion of these certifications can give students advanced standing in an apprenticeship program or possible advanced standing in entry-level construction related employment.

Course Standards

Safety

1) Identify safety hazards on a jobsite and demonstrate practices for safe working. Accurately read, interpret, and demonstrate adherence to safety rules, including but not limited to rules pertaining to electrical safety, Occupational Safety and Health Administration (OSHA) guidelines, and state and national code requirements. Be able to distinguish between the rules and explain why certain rules apply. Recognize and employ universal construction signs and symbols such as colors, flags, stakes, and hand signals that apply to construction workplace situations. Research and evaluate construction company safety plans from local industry. Explain the need for jobsite security to prevent liability. Drawing from examples, create and implement a jobsite safety program in the class to ensure safe practices and procedures including jobsite security procedures.

(TN Reading 3, 4, 6; TN Writing 2, 4)

2) Maintain safety records and demonstrate adherence to industry-standard practices regarding general machine safety, tool safety, equipment safety, electrical safety, and fire safety to protect all personnel and equipment. For example, when operating tools and equipment, regularly inspect and carefully employ the appropriate personal protective equipment (PPE), as recommended by Occupational, Safety & Health Administration (OSHA) regulations. Incorporate safety procedures when operating tools and equipment, such as hand and power tools, ladders, scaffolding, and lifting equipment. Complete safety test with 100 percent accuracy.

(TN Reading 3, 4)

3) Follow procedures to work safely around materials. Adhere to responsibilities for employees in material safety as outlined by the Hazard Communication Standard (HazCom), such as locating and interpreting material safety data sheets (MSDS). For example, obtain an MSDS for a given material from a supplier in the community. Demonstrate safe procedures to move materials by planning the movement, properly lifting, stacking, and storing materials, and selecting proper materials-handling equipment.

(TN Reading 3, 4)

Tools & Equipment

4) For each of the systems covered in this course, identify and select the proper tools and accessories, critique the readiness of the tools, use the tools to accomplish the desired tasks, and then return the tools and accessories to their proper storage. Research a new technology recently developed for the construction industry. Write persuasively to convince an employer how the use of the technology could benefit the company, citing evidence from resources. For example, describe how a new power tool could improve efficiency and reduce muscle fatigue for a construction team.

(TN Reading 1, 2, 3, 4; TN Writing 1, 4, 7, 9)

Construction Industry Principles

5) Locate and assess the Tennessee Contractor's Licensing Board's website and analyze the policies and requirements for construction work in Tennessee. Explain how such policies impact local construction businesses.

(TN Reading 2, 3, 4)

6) Consult a variety of sources to describe alternatives to traditional project delivery methods, such as the design-build and construction management-related methods, distinguishing among the roles and relationships of various construction personnel in each scenario. Examine the project delivery method of an actual company. Develop a company profile with supporting graphics the company could share with a client describing the services provided and explaining the project delivery method used by the company.

(TN Reading 2, 3, 4, 5, 7; TN Writing 2, 4, 8; NCCER 44105-08)

Structural System Loads

7) Categorize and describe the structural loads that act on a building, including vertical loads (such as dead loads, live loads, and rain loads) and lateral loads (such as wind and earthquakes). Drawing on textbooks and other resources, create a visual display with supporting text to explain how the various loads act on a building's structural system.

(TN Reading 2, 4, 5, 7; TN Writing 2; TN Physics 1)

8) Distinguish among the types of structural failures that can occur in a structural system, including compressive failures, tensile failures, and buckling failures. Explain how specific components of a structural system prevent structural failures based on descriptions in texts and through classroom experiments, synthesizing information gathered from both to illustrate concepts. For example, explain how blocking between studs in a wood frame wall prevents the buckling of studs.

(TN Reading 2, 4, 5, 7, 8, 9; TN Writing 2)

Cold-Formed Steel Framing

9) Examine the components, fasteners, tools, and procedures used in cold-formed steel framing; compare and contrast cold-formed steel framing with wood framing in building construction. Outline the major similarities and differences in each and write persuasively to provide a recommendation to a client for a specific project.

(TN Reading 2, 3, 4; TN Writing 1, 4, 9; NCCER 27205-13)

10) Demonstrate the ability to build steel frame components including back-to-back, box, and L-headers. Work in teams to lay out and install steel stud walls (both structural and non-structural) with openings to include bracing and blocking by implementing required safety techniques, tools, and equipment.

(TN Reading 3; TN Math N-Q; NCCER 27205-13)

Exterior Finishing

11) Examine a wall section drawing for a specific building. Identify, define, and explain the function of each component including wall insulation, flashing, and the structure of the cornice. Draw from textbooks and other resources to annotate the wall section drawing with notes explaining the purpose of each component.

(TN Reading 1, 2, 3, 4, 5, 7; Writing 2, 4, 9; NCCER 27204-13)

12) Interpret wall section drawings to safely construct a cornice.

(TN Reading 3; TN Math N-Q; NCCER27204-13)

13) Analyze various finish systems used to sheath a building, including but not limited to wood siding, fiber-cement siding, vinyl siding, metal siding, stucco, and masonry veneer finishes. Perform a case study of three different buildings in the community, which are sheathed in different ways, hypothesizing why the different materials and methods were selected for each.

(TN Reading 2, 3, 4; NCCER 27204-13)

14) Estimate the siding materials needed to cover a building utilizing mathematical principles such as area formulas and quantitative reasoning. Utilize the appropriate procedures, tools, and materials to install various types of siding. For example, identify three siding methods that are commonly used in the area and demonstrate the ability to plan the installation of and install each.

(TN Reading 3; Math N-Q; NCCER 27204-13)

Thermal & Moisture Protection

15) Explain the impact of heat transfer in a building, including heat loss during cold temperatures and heat gain during warm temperatures. Describe how building components such as insulation work to resist the transfer of heat in a structure. Interpret charts and graphs in building codes to determine the recommended R-values of insulation in a given location.

(TN Reading 2, 4, 5; TN Physical Science 2; TN Physics 2; NCCER 27203-13)

16) Categorize the various types of insulation based on their characteristics and installation method. Summarize the key properties and installation procedures of each insulation type in a visual display.

(TN Reading 2, 3, 4, 7; NCCER 27203-13)

17) Describe the materials and methods used in a structure for moisture control, waterproofing, and ventilation.

In a written narrative, explain how a vapor barrier protects an interior from moisture and describe the permeability rating necessary for a material to be considered a vapor retarder. Write guidelines for a builder or architect to use as reference when selecting appropriate vapor barriers for a specific location based on the climate and other factors, citing evidence from textbooks and other resources.

(TN Reading 1, 2, 4; TN Writing 2, 4, 7, 9; NCCER 27203-13)

18) Interpret construction drawings and building codes to select and estimate the thermal and moisture protection materials needed to complete a project utilizing mathematical principles such as area formulas and quantitative reasoning. Utilize the appropriate procedures, tools, and materials to install blanket insulation in a wall, a vapor barrier on a wall, and building wraps.

(TN Reading 2, 3, 4; TN Math N-Q; NCCER 27203-13)

Roofing Applications

19) Compare and contrast the materials, methods, and procedures for roofing with fiberglass shingles with other roofing materials such as wood shingles, metal roofing, and membrane-type roofing systems. Perform a cost analysis for a client to help the client choose between two roofing materials for a specific project given the site location, project budget, environmental considerations, and other factors.

(TN Reading 2, 3, 4; TN Math N-Q; NCCER 27202-13)

20) Apply the appropriate tools, equipment, and procedures to safely install shingles on a roof including strategies for watertight installation, using quantitative reasoning and geometric formulas where applicable. For example, interpret construction documents to estimate the roofing materials needed to install fiberglass shingles on a gable roof. After preparing the roof with underlayment, flashing, and other preparation materials, install fiberglass shingles, install a cricket or saddle, and install ridge caps.

(TN Reading 3; TN Math N-Q, G-SRT; NCCER 27202-13)

Windows, Doors, and Door Hardware

21) Describe the common styles and components of windows. Read and interpret construction drawings, window schedules, specifications, and manufacturers' information to determine the types of window and installation procedures required for a project. Apply the appropriate tools, equipment, and procedures to safely install windows.

(TN Reading 2, 3, 4)

22) Analyze the parts of a door frame, including sills, jambs, and casings, and describe different interior door types. Read and interpret door schedules and other construction documents to determine the type of door and door hardware required for a project.

(TN Reading 2, 4; NCCER 27208-13, 27201-13)

23) Apply the appropriate tools, equipment, and procedures to safely install a door, including checking the plumb and square of a door frame and installing a pre-hung door unit. Demonstrate proper procedures to work with door hardware, including laying out and cutting hinges in a wooden door and installing door closers and locksets.

(TN Reading 3; TN Math N-Q; NCCER 27208-13)

Drywall Installation & Finishing

24) Describe the various components involved in drywall installation, including the types of drywall, drywall fasteners

and adhesives, and drywall accessories. Explain the procedure to install drywall, noting the proper tools involved. Describe the role drywall plays in sound isolation and fireproofing, outlining how fire-rated walls are constructed. (TN Reading 3, 4, 5; NCCER 27206-13)

25) Read and interpret drawings to select the type and thickness of drywall required for a specific installation. Utilize quantitative reasoning to estimate the amount of drywall, fasteners, and finishing materials needed for a project. (TN Reading 2, 4, 6; TN Math N-Q; NCCER 27206-13)

26) Install gypsum drywall panels on stud walls and ceilings using different types of fastening systems, including nails, screws, and adhesives. Perform single-layer and multi-layer installations by implementing required safety techniques, tools, and equipment. Describe the differences in procedures for installing gypsum panels on steel wall frames. (TN Reading 2, 3; TN Math N-Q; NCCER 27206-13)

Drywall Finishing

27) Describe the procedures, tools, and materials used in drywall finishing, indicating the purpose of each material. Read and interpret industry standards regarding drywall finish such as the Recommended Levels of Gypsum Board Finish. Observe finished drywall and determine the level of finish, citing evidence from industry standards documents. (TN Reading 1, 2, 3, 4, 6, 7; TN Writing 9; NCCER 27207-13)

28) Implement the proper procedures, tools, and materials to finish drywall. Procedures include preparing compounds, taping joints, applying joint compounds, sanding, spotting fastener heads, and finishing corners. (TN Reading 3; NCCER 27207-13)

29) Diagnose the cause and determine the appropriate solution for problems that occur in drywall finishing, citing evidence from textbooks or technical manuals in order to justify why the chosen solution is appropriate. Implement the proper tools and procedures to patch damaged drywall. (TN Reading 1, 2, 3, 4; TN Writing 9; NCCER 27207-13)

Window, Door, Floor, and Ceiling Trim

30) Distinguish among the different types of standard trim, including base, wall, ceiling, window, and door trim. Utilize the proper tools, equipment, and procedures to make square cuts, miter cuts, and coped joint cuts in trim. (TN Reading 2, 3, 4; NCCER 27210-13)

31) Apply the appropriate tools, fasteners, and procedures to install window, door, floor, and ceiling trim. Estimate the quantities of different trim materials needed for a given room. (TN Reading 3; TN Math N-Q; NCCER 27210-13)

Cabinet Installation

32) Identify the components that make up a basic set of cabinets, analyzing the purpose of and interrelationships among each component and explaining the sequence in which each is constructed. Components include wall cabinets, base cabinets, countertops, and cabinet hardware. Read and interpret drawings and technical manuals to determine the steps, equipment, and materials needed to lay out and install a basic set of cabinets. Develop a timeline and action steps needed to complete a cabinet installation. (TN Reading 1, 2, 3, 4, 5, 7; TN Writing 2, 4; NCCER 27211-13)

Green Building

33) Research and identify green strategies used in the design and construction of buildings specifically impacting carpenters. Drawing on resources such as those from the U.S. Green Building Council, discuss green work practices of carpenters, such as reducing waste in the construction process, citing resources to support claims. (TN Reading 1, 2, 4; NCCER 70101-09)

Construction Drawings & Specifications

34) Explain the relationship between construction drawings and specifications. For example, describe how both the construction drawings and specifications provide information about the exterior sheathing indicated for a building. Examine construction drawings and specifications, to determine the requirements of the sheathing for a given part of a building, and verify with measurements and other sources as needed. (TN Reading 1, 2, 4, 5, 6, 7, 8; NCCER 27201-13)

35) Describe processes by which construction professionals obtain clarification from architects regarding construction documents, such as by the use of requests for information (RFI's). Write a request for information (RFI), as would a construction professional to an architect to request clarification for a detail of the construction documents, such as the selection of a product. (TN Writing 4; NCCER 44105-08)

Business & Project Management

36) Establish and implement specific goals to manage project assignments in a timely manner, including organizing teams to effectively manage assignments, monitoring and reporting on project progress, and evaluating a completed project according to client requirements. For example, inspect and critique a team member's work, providing constructive feedback for improvement. Similarly, respond to constructive feedback from a team member to improve project outcomes and meet project goals.

(TN Reading 2, 6; TN Writing 2)

37) Perform estimating and scheduling techniques for a long-term project, including calculating material quantities and cost (including tax) and labor cost to complete a bid sheet; scheduling construction activities using a flow chart; and determining amounts to be charged to the client at various intervals throughout the project.

(TN Reading 3, 7; TN Math N-Q)

38) Utilize technology to write and share periodical reports (weekly, monthly, etc.) to provide others with information about progress during construction activities as would a project manager to a supervisor. Summarize activities in a narrative form including overall progress in relationship to a previously planned schedule.

(TN Reading 3; TN Writing 2, 4, 6, 10)

Portfolio

39) Update materials from coursework to add to the portfolio started in Fundamentals of Construction and Structural Systems I. Continually reflect on coursework experiences and revise and refine the career plan generated in prior courses, using technology where appropriate. Include photographs or illustrations and written descriptions of sequential progress in construction projects.

(TN Writing 2, 4, 5, 6)

GRADING POLICY

1. Grades are based on the following:

a. Classwork. Classwork grades are 35% of the overall grade each 9-week grading period. 4 – 6 classwork assignments will be given each quarter and will be in review of material that has been recently covered in class. Classwork Grades are based on the following:

Completeness. Assignments must be *complete* as directed. Be sure to read all directions. Ask questions if you are unsure. Points will be deducted based on the percentage of incomplete work.

Correctness. Assignments must be *correct* as directed. Be sure to read all directions. Ask questions if you are unsure. Points will be deducted based on the percentage of incorrect work.

Timeliness. Assignments must be submitted *on time* as directed. Be sure to read all directions. Ask questions if you are unsure. Ten percent (10%) will be deducted for each day an assignment is late, up to fifty percent (50%). There is no penalty for lateness due to an *excused* absence.

b. Participation. Participation grades are 5% of the overall grade each 9-week grading period. Participation grades are based on the following:

Participation. Students must *participate fully* in class discussions and activities as assigned. Be sure to follow all directions. When given the opportunity, ask questions if you are unsure. Points will be deducted based on the percentage of idleness.

Preparedness. Students are required to come to class *with all of the required materials for that class* and are required to come to class having completed all of the homework exactly as assigned. Failure to be prepared will result in a zero for the day.

Wednesday Working Uniforms. Students are required to wear the assigned working uniform shirt on Wednesdays. Failure to wear the working uniform shirt on Wednesdays will result in a zero for the day.

c. Projects. Project Grades are 10% of the overall grade each 9-week grading period. Students will be assigned a project to be completed either alone, with a partner, or as part of a team. Project Grades are based on the following:

Completeness. Projects must be *complete* as directed. Be sure to read all directions. Ask questions if you are unsure. Points will be deducted based on the percentage of incomplete work.

Correctness. Projects must be *correct* as directed. Be sure to read all directions. Ask questions if you are unsure. Points will be deducted based on the percentage of incorrect work.

Timeliness. Projects must be submitted *on time* as directed. Be sure to read all directions. Ask questions if you are unsure. Ten percent (10%) will be deducted for each day an assignment is late, up to fifty percent (50%). There is no penalty for lateness due to an *excused* absence.

Project-Specific Rubric. In addition to the rubric below, a specific rubric may be distributed for each project.

d. Notebook Portfolios. Notebook grades count as one project grade each 9-week grading period. Students are required to maintain a notebook that is to include all written work. Notebooks will be kept in the classroom in containers provided by instructor, however keeping track of the notebook is the *student's* responsibility. *Notebooks are intended to be a student's study guide for all exams* and will be graded for *content* only. Notebook Grades are based on the following:

Completeness. Notebooks must be *complete* as directed. Ask questions if you are unsure. Points will be deducted based on the percentage of missing work.

Correct Order. Notebooks must be organized in the *correct order* as directed. Ask questions if you are unsure. Ten percent (10%) will be deducted if a notebook has not been organized in the correct order.

Timeliness. Notebooks must be submitted *on time* as directed. Ask questions if you are unsure. Ten percent (10%) will be deducted for each day an assignment is late, up to fifty percent (50%). There is no penalty for lateness due to an *excused* absence.

e. Tests and Exams. Test and Exam grades are 40% of the overall grade each 9-week grading period. Tests will be given periodically, and a comprehensive exam will be given at the end of each semester. At least one day's notice will be given for each test/exam so that students may be prepared. Test and Exam Grades are based on the following:

Completeness. Tests and Exams must be *complete* as directed. Be sure to read all directions. Ask questions if you are unsure. Points will be deducted based on the percentage of incomplete work.

Correctness. Tests and Exams must be *correct* as directed. Be sure to read all directions. Ask questions if you are unsure. Points will be deducted based on the percentage of incorrect work.

Timeliness. Tests and Exams must be taken *on time* as directed. Be sure to read all directions. Ask questions if you are unsure. Ten percent (10%) will be deducted for each day an assignment is late, up to fifty percent (50%). There is no penalty for lateness due to an *excused* absence.

2. Grading Scale. The grading scale will be in accordance with Shelby County Schools policy.

**Germantown High School
Career & Technical Education
RULES AND POLICIES**

COURSE: Structural Systems II
INSTRUCTOR: Ms. Argodale
CLASS PERIODS: 6th-7th, Classroom S-101, Shop S-100, and/or Virtually

ATTENDANCE POLICY

Attendance.

Present / On Time. Students must be signed in (or in the classroom), ready to begin working when the bell rings.

Present / Tardy. Any student who is tardy to class must report to the instructor. ALL unexcused tardies will be reported to the appropriate administrator. As a result, Saturday school or another disciplinary penalty may be assigned. An *excused* tardy requires a written note (or an *immediate* email) from a teacher or administrator. It is *not* the instructor's job to ask other adults for a note excusing your tardiness!

Absent / Unexcused. Unexcused absences will result in a ten percent (10%) deduction for each day an assignment is late, up to fifty percent (50%).

Absent / Excused. There is no penalty for *documented* excused absences, and work may be made up in accordance with school policy.

CONDUCT POLICY

Conduct. Students are expected to *fully* participate in all class discussions and activities. Additionally, all students are required to come to class with all of the required materials for that class, and are required to come to class having completed all of the homework exactly as assigned. Students are expected to *fully* comply with all Virtual, Classroom, Safety, Laboratory, School, and Shelby County Schools Rules. Failure to do so will result in a disciplinary penalty. Inappropriate conduct in the laboratory may result in a temporary loss of privileges, which may directly affect a student's grade!

SAFETY

Safety is of the *utmost* importance. Any infraction of the safety rules may result in a temporary loss of privileges, which may directly affect a student's grade! Safety rules are posted in the laboratory

CLASSROOM RULES

In addition to Shelby County Schools and Germantown High School Rules, every day, every student will...

1. Be Responsible For Yourself!

A. Be on time to class. You must be in your seat, ready to work when the bell rings, in order to be considered on time.

B. Come to class prepared every day. Every day each student must bring:

1. One 1" 3-ring binder with clear "view" cover.
2. One set of notebook dividers.
3. Loose leaf paper. Paper from a spiral notebook will **not** be accepted. There will be **no exceptions!**
4. At least two #2 sharpened pencils, every day.
5. At least two medium-point ball-point pens, blue or black, every day.
6. Architect's Scale (*not* an Engineer's Scale)

The instructor does not have supplies for students!

C. Complete your Classwork/Homework. Bring your classwork/homework to class and turn it in WHEN IT IS DUE. Place homework in the basket on the table in the front of the room.
Submit virtual assignments according to directions WHEN THEY ARE DUE.

2. Practice Good Conduct - Classroom

A. Restroom.

Students must have the permission of the instructor in order to use the restroom. Only one student at a time may leave the room to use the restroom when necessary. Students *must not* interrupt the instructor to ask; rather, wait until presentations and instruction is finished.

B. Respect.

Treat all others with the same dignity and respect that you expect from them.

C. Personal Behavior.

Keep yourself to yourself. Horse play is not permitted and will not be tolerated.

D. Seats.

Remain in your seats at all times unless instructed to do otherwise.

Do not move the furniture unless you have the *expressed permission* of the instructor.

E. Talking.

Students must get immediately quite when the instructor stands in front of the room or addresses the students.

Talking in the classroom is only permitted when specified by the instructor.

Do not interrupt the instructor.

You will be given ample opportunity to ask questions.

Ask only questions that are *in context* and relate *directly* to the lesson.

F. Food.

Food OF ANY KIND is *not permitted* in the classroom.

You may bring *clear*, bottled water to class.

G. Electronics.

Electronic devices may only be used by the student when SPECIFICALLY authorized by the teacher. Unauthorized phones or other electronic devices will be confiscated by the instructor and submitted to an administrator.

3. Go Only Where Authorized!

A. Instructor's desk. Students must have the *expressed permission* of the instructor to approach the instructor's desk. Only one student is allowed near the instructor's desk at a time, unless otherwise specified by the instructor. This applies to any items that belong to the instructor.

B. Attached Hallway/Classroom. Students must have the *expressed permission* of the instructor to enter the attached hallway/classroom.

2. Practice Good Conduct - Virtual

While learning virtually, students must comply with the following guidelines in order to achieve success in class. Failure to follow the guidelines will result in a deduction in your participation grade and will negatively affect other grades, depending on the level of infraction. Failure to do so will result in a discipline referral and parents will be contacted. This contract is created to ensure your ability to maintain focus during virtual learning and the teacher's ability to check for understanding.

Digital Citizenship

Digital Citizenship refers to the responsible use of technology by anyone who uses computers, the Internet, and digital devices to engage with society on any level. At GHS that means students will be required to maintain the same level of respect for their teacher and their peers online as they would in person.

A. It's PERMANENT! It is important to consider that what you post online is often permanent.

1. Students must remain engaged with their virtual classroom and limit outside distractions.
2. Students must not post harmful or disruptive comments in the class chat.

3. All classes will be recorded! This is for future student use, but the recordings will be available to the GHS Administration and/or parents if there is a student infraction.
4. Class chat comments cannot be deleted.

Participation

Students will be required to participate visually (on camera) with the teacher throughout class which means they must keep their cameras turned on. The camera is the best way for the teacher to keep track of student participation and engagement. Microphones must be muted at all times unless you have the *expressed permission* of the instructor.

A. Camera. The camera will be the main way that students will communicate virtually with the teacher. This will be done through gestures.

1. Thumbs up 👍 = yes / student understands / is ready to move on.
2. Thumbs down 👎 = no / student does not understand.
3. Pointer finger raised 📎 = slow down / I need more time

B. Microphone. Microphones must remain muted unless the student has permission to ask a question. When given the opportunity, students must first select the "Raise Hand" feature and wait to be called on before turning on their microphone.

A. Limit distractions

1. Students may not use their phones during class time.
2. Students should choose a location in which to learn that allows them to focus and work.
 - Ideally at a table or desk away from other family members

C. Class Notebook. Every student will have a personal Class Notebook assigned to them. The Class Notebook has both a shared folder and a private/personal folder; however, your personal folder is shared with the teacher.

1. The Class Notebook is where students will keep all of their classwork. This includes:
 - Handouts, notes, completed assignments, homework, and quizzes.
2. Students should not delete any assignments from the Class Notebook to ensure that the student will receive credit for their work.

D. Other Virtual Rules may be added as the need arises.

ACT LIKE THE SUCCESSFUL ADULT YOU PLAN TO BE

The rules may be modified by the instructor as needed.

**Germantown High School
Career & Technical Education
FEES AND REQUIRED MATERIALS**

COURSE: **Structural Systems II**
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COSTS

All fees are payable to Germantown High School and will be due to Ms. Argodale by at a later date. Only cash or cashier's checks will be accepted. An official school receipt will be issued upon payment. Personal checks *are not* accepted by Germantown High School.

SkillsUSA

All students are required (by State Law) to join and pay annual dues to **SkillsUSA** (for more information about SkillsUSA, see <http://www.skillsusa.org/>). Students must be a member of this Career and Technical Student Organization (CTSO) in order to go on field trips or compete in any skills competition. The annual dues are \$20.

WEDNESDAY WORKING UNIFORMS

All students are required to wear the specified Wednesday Working Uniform, which the instructor will order. Wearing the uniform is a professional requirement and earns a participation grade.

REQUIRED MATERIALS

1. One 1" 3-ring binder with clear "view" cover.
2. One set of notebook dividers.
3. **Loose leaf paper.** Paper from a spiral notebook will **not** be accepted. There will be **no exceptions!**
4. **At least two #2 sharpened pencils, every day.**
5. **At least two medium-point ball-point pens, blue or black, every day.**
6. **Architect's Scale (*not an Engineer's Scale*)**
7. Safety equipment (*if you choose to purchase your own, subtract \$30 from class fee*).
 - a. **Safety glasses.** Clear lens; Must meet ANSI Z87.1 requirements.
Students who wear glasses must wear safety glasses that are designed to fit over their glasses.
 - b. **Ear plugs.** Disposable foam type, package of several.
 - d. **Dust mask.** N95 disposable molded style, package of several.
- OR - Disposable face-mask with elastic ear loops (medical style), package of several.
 - d. **Gloves.** Well-fitting (not baggy or loose) durable work gloves, leather or leather palmed. Rubber, vinyl, or fabric gloves are not allowed.
 - e. **Bag.** A bag or backpack in which to keep these items.
Additionally, since carpentry can be a very dusty activity, students may choose to bring a dust apron or a change of work clothes.

The instructor *does not* have extra materials to lend to students.

Ann E. Argodale
Structural Systems Teacher
College, Career, & Technical Education
Germantown High School

Dear Parent/Guardian:

As you know, your child is enrolled in Structural Systems II, a vocational education course, which can prepare your child for a career in the construction industry. This is a hands-on course in which your child will learn how to use hand tools, compressed-air-powered tools, electrically powered tools, and electrically powered machines. Additionally, your child will be handling actual building materials used in the construction industry. Because safety is of the utmost importance in using these tools and machines, your child must pass a number of safety tests:

1. OSHA-10 General Industry 10-hour course that was offered in Fundamentals of Construction. The student will *not be permitted* to participate in any hands-on activities until this course is complete! This is SCS Board Policy!
2. Operating and safety examinations for each tool/machine with 100% accuracy before he/she will be permitted to use each item. A 100% score is required in order to achieve 100% safety. Failure to score 100% in a timely manner may adversely affect your child's grade. Additionally, your child must follow all laboratory safety rules *exactly* in order to insure his/her safety. Failure to do so may result in serious injury or even death. Therefore, it is important that you stress to your child the great importance of learning all of the operating and safety rules and following them *to the letter*. Any failure on your child's part to do so which results in his/her injury *or the injury of others* will therefore be the *sole fault of your child*.

Your child must provide his/her own safety equipment including a hard hat, safety glasses, hearing protection, and gloves, which will be his/her responsibility to maintain. If any of these items are lost or damaged, your child will not be permitted to participate in laboratory activities until the items are replaced at your child's expense. Failure to do so promptly may adversely affect your child's grade.

Because building materials are often rough or have splinters, sometimes very minor, superficial scratches and scrapes may occur. This is to be expected. These will be treated in the laboratory with soap and water and band-aids, as required.

A signed copy of the signature page (below) must be on file with the school before your student may participate in the hands-on portion of the training process.

Sincerely,

Ann E. Argodale
Carpentry Teacher
College, Career, & Technical Education
Germantown High School
Shelby County Schools

2nd/3rd 4th 5th 6th/7th

Class Period (circle one)

Print/Type Student Name (last, first)

**Germantown High School
Career & Technical Education
STUDENT CONTRACT**

COURSE: **Structural Systems II**
INSTRUCTOR: Ms. Argodale
CLASS PERIODS: 6th-7th, Classroom S-101, Shop S-100, and/or Virtually

Course Description

Structural Systems II is an advanced-level course that builds on the introductory skills learned in the Fundamentals of Construction and Structural Systems I courses. This course will explore advanced framing, the physics of structural loads, and the coverings and finishes of structural systems. Upon completion of this course, proficient students will be able to install interior and exterior finishing, including roofing, siding, thermal and moisture protection components, drywall, doors, and trim. Throughout the course, students will interpret construction drawings to complete projects, implementing material estimating procedures and safe working practices. Standards in this course also expand on principles of the construction industry and delve deeper into business and project management strategies. Students will continue compiling artifacts for inclusion in their portfolios, which they will carry with them throughout the full sequence of courses in this program of study. Standards in this course are aligned with Tennessee State Standards for English Language Arts & Literacy in Technical Subjects, Tennessee State Standards in Mathematics, Tennessee Physical Science Standards, Tennessee Physics Standards, and the National Center for Construction Education and Research (NCCER) Curriculum.

Program of Study Application

This is the third course in the *Structural Systems* program of study. Flexibility is built in to offer this course for either one or two credits, depending on school capacity and teacher background. Whether offered for one or two credits, this course can feed into a fourth-level Construction Practicum course in which students can apply the skills learned throughout the program of study toward the completion of an in-depth, semester- or year-long work -based learning (WBL) apprenticeship or internship. For more information on the benefits and requirements of implementing this program in full, please visit the Architecture & Construction website at <https://tn.gov/education/article/cte-cluster-architecture-construction/>

Industry Certification

Students in this course will test to earn industry certification from three different sources:

1. Occupational Safety and Health Administration (OSHA) 10-Hour Safety Certification (OSHA-10).
2. NCCER Industry Certification in the fields of Architecture and Construction.
3. Home Builders Institute (HBI) Pre-Apprenticeship Certificate Training (PACT).

Completion of these certifications can give students advanced standing in an apprenticeship program or possible advanced standing in entry-level construction related employment.

By *initialing* next to each item, below, I acknowledge that I have read the document listed, I fully understand it, and I will comply.

<input type="checkbox"/> Course Syllabus	<input type="checkbox"/> Required Supplies
<input type="checkbox"/> Rules and Policies	<input type="checkbox"/> Course Fees
<input type="checkbox"/> Behavior Contract	<input type="checkbox"/> Virtual Contract

I have read each document listed above. I agree to comply with all classroom rules, policies, and conduct rules. I am aware of the required supplies and fees for the course, and understand that I must have these items no later than Friday, September 3, 2021. I understand that failure to do so will affect my ability to fully participate in the class and earn a grade.

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Print Student Name

Student Signature

Date

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Print Parent Name

Parent Signature

Date

