

Tech Wars 2022 – Niagara County Community College

Competition Category: Architectural Design

Level of Competition: High School

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Description of Competition:

This category allows for high school students to present an Architectural project. A complete project must have the required architectural drawings, physical model, and a presentation. These sections are described in detail below. Student's projects will be judged based on their scoring of their design, drawings, model, and presentations

Rules of the Competition:

1. You must give a 3 – 6 minute formal presentation. Groups must be two students only maximum.
2. A limit of one entry per student /group. Students cannot be involved in more than one group
3. Each high school may bring up to 5 projects (Email John Connor with number of projects competing by Jan 1st, 2018) *This is so we will have enough tables*
4. The project must be student work.
5. Students can utilize any tools, programs, or machines
6. Complete elevation, floor plans, and door and window schedule are required.
7. A complete scaled physical model is required.
8. The required drawings are the elevations, floor plans, door and window schedule. All drawings should match the physical model.
9. You may bring whatever you want for display purposes (Easel, extra drawings, special tables, display devices, screens, lap top computers, etc.) These are for display purposes only and will not be a part of the scoring rubric.

Design Requirements

Students are required to choose a style of architecture for their house design. The layout of the design must work effectively to everyday living. The exterior features and interior layout should match the style of architecture.

Examples of Architectural Styles:

- Victorian
- Craftsman
- Cape Cod
- Tudor
- Art Deco
- Contemporary
- Traditional
- Colonial

Please do not use generic styles of architecture such as two-story, or single family house

Part I: Technical Drawings

- All drawings should be attached to each other to save space
- Each project must include architectural drawings for an original student designed one or two story residential home.
- The style of architecture must be stated in the title block of the elevation and floor plan drawings.
- The size of the home should be between 1500 - 2,000 sq. ft.
- The four elevations can be located on one drawing and labeled appropriately.
- The floor plans must include dimensions, appropriate symbols and room names. The following drawing specific standards must be followed:

Drawing Specific Standards:

Dimension Style:

- Dimension text is 1/8"
- Dimensions centered above dimension line
- Dimension in ft. – in including 0" (ex. 16'-6")

Scales:

- Use of same scale on all drawings (elevations and floor plans)
- Use of standard scale notation (ex. 1/4" = 1'-0")
- Scales in title block match the drawing scale

Window and Door Schedules:

- Include quantity, rough opening size, type, material
- Description of doors and windows in schedule must visually match all drawings and models
- Door and window symbols match drawings and schedule
- Door and window symbols must be included on floor plans
- Door and window symbols on the floor plan must be large enough to read

Floor Plans:

- Total square footage must be noted on the drawings
- Floors must be labeled (FIRST FLOOR, SECOND FLOOR, . . .)
- Overall room dimensions given (Including closets)
- Overall house dimensions given in floor plan
- Window and door placement dimension to centerlines

Elevations:

- Names of elevations labeled (North, South, East, West)
- Same scale used in all views
- Height dimensions given in elevations - dimension from top of foundations, to the top of floors and ceilings
- Roof pitches indicated in rise and run lines in elevations

Part II: Physical Model

- Students must build a model of the house that they designed for Part I
- Scale must be on the model (Any scale is allowed)
- Models should physically fit within a 2' x 2' x 2' space
- Use of any materials is allowed
- Houses should allow the removal of roofs and second floors to allow viewing of first floor
- Houses can be decorated inside and out as desired
- Furniture and fixtures are not required inside the model

Part III: Presentation

- Students must give a 3- 6 minute presentation about the characteristics of their architectural style, and how their design portrays those characteristics. Use visual aids from drawings, renderings, and models as support.
- Students should be dressed appropriately (You are an architect presenting your plans to a client)
- Students should be knowledgeable of their chosen architectural design and how their design is a proper representation of the architectural design
- All drawings should be attached to each other because of limited space.
- Students will also be judged on their public speaking skills to sell their design. (Remember: speak loudly and clearly, be positive, interact, use eye contact, keep a good posture, and **use your visual aids**)

Scoring/Evaluation/Presentation:

- Judges will use the rubric below to determine each score
- Judges will review and score the projects as students present
- Judges reserve the rights to look at the projects after all presentations are complete to determine 1st 2nd and 3rd places
- If a project is incomplete or students do not present their project, it will not be judged



Judging Rubric: Architectural Design

Student(s) Name: _____

School: _____

Project Name: _____

Criteria	Enter Score	9 – 10 pts.	7 – 8 pts.	5 – 6 pts.	0 – 4 pts.
Architectural Style		House design was an excellent representation of desired architectural style.	House design was a good rep. of desired arch style. Some key characteristics are missing.	House design is not very effective at matching arch style.	House design did not match desired arch style, OR no desired architectural style was provided.
Design Effectiveness		An excellent design which would work very well. The spaces are well designed for everyday living, traffic flows very well, and service areas are appropriately placed.	A good design which would work very well. One area is not very effective, or traffic pattern does not flow as well as it should.	A fair design which would work. More than one area is not very effective, or traffic pattern does not flow as well as it should.	A poor design which would not work very well. All areas are not very effective, and traffic pattern does not flow as it should.
Drawing Standards		All drawing standards were followed as specified in the rules. Excellent job!	Most of drawing standards were followed as specified in the rules. Very good job.	Some of drawing standards were followed as specified in the rules. Fair job.	Not many of the drawing standards were followed as specified in the rules. Poor job.
Model Quality		-Model is accurate with a lot of detail. -Matches drawings. -Very well built and professional looking.	-Model has less detail, but is still accurate. -A very nice model.	-Model has little detail and little accuracy. - Model could use a little more work.	-Model is inaccurate with no detail. - Model is poorly constructed.
Presentation		-Presenters were very knowledgeable of their architectural style -Presenters knew everything about their design using details -Used exceptional public speaking skills	-Presenters were knowledgeable of their arch style -Presenters knew most of the details about their design -Used very good public speaking skills	-Presenters were unsure about their arch style -Presenters were unsure about the details in their design -Used good public speaking skills	-Presenters were not knowledgeable of their arch style OR did not provide one -Presenters did not know about their design -Used poor public speaking skills
Final Score		/ 50 Points			