



26-27 HS Rulebook

High School Unique to Texas Projects

High School Unique to Texas Projects (UTE-Projects) are events that are unique to the state of Texas and can be competed at the regional and state level.

Projects can be completed either individually or as a team. When registering the project for the Regional Competition, the project will be registered to one student of a team.

Regions may enter up to 5 projects for each UTE-Project event.

If students **ONLY** have events in this category, they may register as a virtual competitor and attendance is not required.

Students are responsible for reviewing and following the general rules and guidelines established in the:

- General Rules and Regulations
- Copyright Policy
- Student Uniqueness of Work Policy/AI Policy
- Required Documentation

These rules and requirements may be modified at the regional levels to accommodate for space and time constraints, check with your region for more details.

IMPORTANT - Ignorance of the rules and/or misunderstanding of the rules as run at the state conference is not an excuse for a protest or additional consideration.

Technical Design

These events are designed for students using traditional drafting and computer aided design techniques to create industry documents. All projects must include the required documentation and refer to the High School Event Guidelines for submission directions.

Entries that have multiple sheets MUST be bound on the left side of the sheets using staples. Unbound sets or sets bound with temporary methods such as paper clips will not be accepted. Maximum sheet size is Arch D (24"x 36").

Title blocks may contain only the following information:

- Student Initials
- Unique Student ID Number
- Category Number
- Title
- Description
- Scale

School logos are not allowed. Students may create their own logo to be used in the title block as long as it does not have any identifying information or reference to the school name.

All student entries must be made from a single unique native file. Each project must be unique in both the final product and any associated electronic file regardless of file type. The only exception is the use of common library parts such as the Content Center in AutoDesk.

Section 3.0 Engineering

Items in this section involve student created engineering projects in which students created projects using traditional drafting or modern computer aided design standards, practices, and methods.

Use of AI applications are prohibited. Use of AI will result in disqualification of entry.

Documentation for these events must include:

- Texas TSA Documentation form

Free Hand Sketching

Shading is Allowed. Shading can be graphite or color pencil only. Single sheet only.

Event	Details	Event #
Mechanical Engineering - Free Hand Sketch of a Single or Multiple Part Mechanical Device. Pen or Pencil Only.		HP30000
Aerospace Engineering - Free Hand Sketch of an Aerospace Device or Structure. Pen or Pencil Only.		HP30001
Electronic Engineering - Free Hand Sketch of an Electronic Device. Pen or Pencil Only.		HP30002
Civil Engineering - Free Hand Sketch of a Civil Structure. Pen or Pencil Only.		HP30003

Working Drawings

Working Drawings - drawings that are used to provide the technical details of a design. Drawings must include the information to recreate the design which could include but not limited to:

- Dimensions
- American National Standard Institute (ANSI) standards of symbols and conventions
- Title
- Scale
- Threading
- Materials
- Notes
- Components such as nuts, bolts and clips are to be included in the working drawings and count as one part regardless of how many are needed.

Working Drawing to include Front, Top, and Right Side Views. Duplicate views can be omitted or a Section View can be Used in its place.

Event	Details	Event #
Mechanical Engineering - Working Drawings of a Single or Multiple Parts. Pen or Pencil Only	Single Sheet Only	HP30100
Mechanical Engineering - Working Drawings of a Single or Multiple Parts with a Pictorial View. Pen or Pencil Only	Working Drawings will also include an Isometric or Oblique View (No Shading Allowed). Single Sheet Only.	HP30101
Mechanical Engineering - Working Drawings of a Single Part. [CADD]	Single Sheet Only	HP30102
Mechanical Engineering - Working Drawings of 2-5 Mechanical Parts. [CADD]	Number of sheets as needed.	HP30103
Mechanical Engineering - Working Drawings of 6-12 Mechanical Parts. [CADD]	Number of sheets as needed.	HP30104
Mechanical Engineering - Working Drawings of 13 or More Mechanical Parts. [CADD]	Number of sheets as needed.	HP30105
Mechanical Engineering - Working Drawings of a Single Part with a Pictorial View. [CADD]	Working Drawings will also include an Isometric or Oblique View (No Rendering Allowed). Single Sheet Only.	HP30106
Mechanical Engineering - Working Drawings of 2-5 Mechanical Parts with a Pictorial View. [CADD]	Working Drawings will also include an Isometric or Oblique View (No Rendering Allowed). Single Sheet Only.	HP30107
Mechanical Engineering - Working Drawings of 6-12 Mechanical Parts with a Pictorial View. [CADD]	Working Drawings will also include an Isometric or Oblique View (No Rendering Allowed). Number of Sheets as needed.	HP30108

Mechanical Engineering - Working Drawings of 13 or More Mechanical Parts with a Pictorial View. [CADD]	Working Drawings will also include an Isometric or Oblique View (No Rendering Allowed). Number of Sheets as needed.	HP30109
Mechanical Engineering - Working Drawings of Pipe Fabrication (Fluid Transportation). [CADD]	Working Drawings to include Pipe Layout Plan, Fitting Identification, and Vertical Information. Number of sheets as needed.	HP30110
Mechanical Engineering - Working Drawings of a Transportation Device with a Pictorial View. [CADD]	Working Drawings will also include an Isometric or Oblique View (No Rendering Allowed). Number of Sheets as needed.	HP30111
Aerospace Engineering - Working Drawings of an Aerospace Device or Structure with a Pictorial View. [CADD]	Working Drawings will also include an Isometric or Oblique View (No Rendering Allowed). Number of Sheets as needed.	HP30112

Pictorial View

Pictorial Drawing - provides a 3D like image to help understand the shape of an object or to assist in interpreting a drawing. There are three types of pictorial drawings: isometric drawings, oblique drawings, and perspective drawings.

No Illustrating/Rendering Allowed.
Single Sheet Only

Event	Details	Event #
Mechanical Engineering - Pictorial View Only of a Single or Multiple Parts. Any Method Other Than Computer.		HP30200
Mechanical Engineering - Pictorial View Only of a Single Part. [CADD]		HP30201
Mechanical Engineering - Pictorial View Only of 2-5 Mechanical Parts. [CADD]		HP30202
Mechanical Engineering - Pictorial View Only of 6-12 Mechanical Parts. [CADD]		HP30203
Mechanical Engineering - Pictorial View Only of 13 or More Mechanical Parts. [CADD]		HP30204
Mechanical Engineering - Pictorial View of Pipe Fabrication (Fluid Transportation). [CADD]		HP30205
Mechanical Engineering - Pictorial View of a Transportation Device. [CADD]		HP30206

Aerospace Engineering - Pictorial View of an Aerospace Device or Structure. [CADD]	HP30207
Electronic Engineering - Pictorial View of an Electronic Device. [CADD]	HP30208
Civil Engineering - Pictorial View of a Civil Structure. [CADD]	HP30209

Presentation View

Presentation Drawing - the production of a drawing for the purpose of gaining support, such as at a presentation or to “sell” a product.
 Assembled view only.
 Must be Rendered/Illustrated
 Single Sheet Only

Event	Details	Event #
Mechanical Engineering - Presentation View Only of a Single or Multiple Parts. Any Method Other Than Computer.	Illustrating using any method including but not limited to pencil, pen, charcoal, or marker is required. Single sheet only.	HP30300
Mechanical Engineering - Presentation View Only of a Single Part. [CADD]		HP30301
Mechanical Engineering - Presentation View Only of 2-5 Mechanical Parts. [CADD]		HP30302
Mechanical Engineering - Presentation View Only of 6-12 Mechanical Parts. [CADD]		HP30303
Mechanical Engineering - Presentation View Only of 13 or More Mechanical Parts. [CADD]		HP30304
Mechanical Engineering - Presentation View of a Transportation Device. [CADD]		HP30306
Aerospace Engineering - Presentation View of an Aerospace Device or Structure. [CADD]		HP30307
Electronic Engineering - Presentation View of an Electronic Device. [CADD]		HP30308
Civil Engineering - Presentation View of a Civil Structure. [CADD]		HP30309

Exploded Presentation View

Exploded Presentation Drawing showing multiple parts in an isometric or 3D view that show how the parts would fit together to form one working device. This is typically used in assembly instructions or as a means to order specific parts. A part list must be included on the sheet.

Event	Details	Event #
Mechanical Engineering - Exploded Presentation View Only of 2-5 Mechanical Parts. [CADD]		HP30400
Mechanical Engineering - Exploded Presentation View Only of 6-12 Mechanical Parts. [CADD]		HP30401
Mechanical Engineering - Exploded Presentation View Only of 13 or More Mechanical Parts. [CADD]		HP30402
Aerospace Engineering - Exploded Presentation View of an Aerospace Device or Structure. [CADD]		HP30403
Electronic Engineering - Exploded Presentation View of an Electronic Device. [CADD]		HP30404

Engineering Media

Engineering media uses rendering methods to create a realistic view of a part or machine. Animations show how different parts come together in assembly to create one working device.

Event	Details	Event #
Engineering Media - Original 3D Computer Image of a Mechanical Part or Parts		HP30500
Engineering Media - Animated Assembly or Mechanical Movement of Multiple Mechanical Parts - 60 sec max		HP30501
Engineering Media - Animated Transpiration Device - 60 sec max		HP30502
Engineering Media - Engineering Presentation Animation Multiple Parts - 3 min max	Reserved for students working with 3D apps, advanced modeling and animation software. Rendering is required.	HP30503

Section 3.1 Architecture

Items in this section involve student created architecture projects in which students created projects using traditional drafting or modern computer aided design standards, practices, and methods.

Use of AI applications are prohibited. Use of AI will result in disqualification of entry.

Documentation for these events must include:

- Texas TSA Documentation form

Free Hand Sketching

Event	Details	Event #
Free Hand Sketch of an Architectural Structure. Pen or Pencil Only.	This event is designated for hand sketching only. Traditional board drafting techniques such as but not limited to scales, straight edges, or templates are not permitted. Illustrating using any method including but not limited to pencil, pen, charcoal, or marker is allowed but not required. Single sheet	HP31000
Free Hand Sketch of Landscape. Pen or Pencil Only.	This event is designated for hand sketching only. Traditional board drafting techniques such as but not limited to scales, straight edges, or templates are not permitted. Illustrating using any method including but not limited to pencil, pen, charcoal, or marker is allowed but not required. Single sheet	HP31001
Perspective Drawing of an Architectural Subject. Pen or Pencil Only.	Any number of vanishing points are allowed. Illustrating using any method including but not limited to pencil, pen, charcoal, or marker is allowed but not required. Single sheet only.	HP31002
Perspective Drawing of a Landscape Subject . Pen or Pencil Only.	Any number of vanishing points are allowed. Illustrating using any method including but not limited to pencil, pen, charcoal, or marker is allowed but not required. Single sheet only.	HP31003

Construction Drawings

Construction Drawings - drawings that are used to provide the technical details of a design. Drawings must include the information to recreate the design which could include but not limited to:

- Dimensions
- American National Standard Institute (ANSI) standards of symbols and conventions
- Title
- Scale
- Threading
- Materials
- Notes

Constructions Drawings are to include but not limited to:

- Cover Sheet
- Site Plan
- Existing Floor Plan (Remodel Only)
- Demolition Plan (Remodel Only)
- Floor Plan(s)
- Elevations
- Roof Plan
- Reflected Ceiling Plan (Commercial Only)
- Electrical Drawings - Include at minimum Electrical Outlets, Light Switches, and Lighting.

Event	Details	Event #
Construction Drawings of a Tiny Home on a Trailer. Pen or Pencil Only.	Use traditional board drafting techniques to develop a set of construction drawings. No illustrating allowed.	HP31100
Construction Drawings of any Residential Structure. Pen or Pencil Only.	Use traditional board drafting techniques to develop a set of construction drawings. No illustrating allowed.	HP31101
Construction Drawings of any Commercial Structure. Pen or Pencil Only.	Use traditional board drafting techniques to develop a set of construction drawings. No illustrating allowed.	HP31102
Construction Drawings of a Tiny Home on a Trailer. [2D & 3D CADD]		HP31103
Construction Drawings of Residential Home under 2000 sq. ft HVAC [2D CADD]		HP31104
Construction Drawings of Residential Home under 2000 sq. ft HVAC [3D CADD]		HP31105
Construction Drawings of Residential Home over 2000 sq. ft HVAC [2D CADD]		HP31106

Construction Drawings of Residential Home over 2000 sq. ft HVAC [3D CADD]	HP31107
Construction Drawings of Residential Multistory Single Family Home under 2000 sq. ft [2D CADD]	HP31108
Construction Drawings of Residential Multistory Single Family Home under 2000 sq. ft [3D CADD]	HP31109
Construction Drawings of Residential Multistory Single Family Home over 2000 sq. ft [2D CADD]	HP31110
Construction Drawings of Residential Multistory Single Family Home over 2000 sq. ft [3D CADD]	HP31111
Construction Drawings of Apartment, Condo, Townhouse, Duplex [2D CADD]	HP31112
Construction Drawings of Apartment, Condo, Townhouse, Duplex [3D CADD]	HP31113
Construction Drawings of a Commercial Structure-Retail [3D CADD]	HP31115
Construction Drawings of a Commercial Structure-Restaurant [2D CADD]	HP31116
Construction Drawings of a Commercial Structure-Restaurant [3D CADD]	HP31117
Construction Drawings of a Commercial Structure-Other [2D CADD]	HP31118
Construction Drawings of a Commercial Structure-Other [3D CADD]	HP31119
Construction Drawings of a Commercial Structure - Mixed Use [2D CADD]	HP31120
Construction Drawings of a Commercial Structure - Mixed Use [3D CADD]	HP31121

Construction Drawings of a Recreational Facility/Public Structure [2D CADD]		HP31122
Construction Drawings of a Recreational Facility/Public Structure [3D CADD]		HP31123
Construction Drawings of a Residential Remodeling [2D CADD]		HP31124
Construction Drawings of a Residential Remodeling [3D CADD]		HP31125
Construction Drawings of Detailing of Architectural Elements [2D & 3D CADD]	Can Include but not limited to Walls, Windows, Doors, Stairs, Cabinetry, Foundations, and Full Building Sections.	HP31126
Construction Drawings of Architectural Landscape/Irrigation Plan. Any Method Other Than Computer.	Use traditional board drafting techniques to develop a set of construction drawings. Illustrating using any method including but not limited to pencil, pen, charcoal, or marker is allowed but not required.	HP31127

Presentation Drawings

Presentation Drawings are single sheet documents that are used typically for sales. Examples include sales flyers a home builder would hand out of available floor plans in a subdivision, available rental space of a building or warehouse, and presentation to a client.

Residential floor plan must include but not limited to:

- Room Names
- Room Sizes
- Important features but not full dimensions

Commercial floor plans must include but not limited to:

- Area Names
- Area Sizes
- Area Square Footages
- Important features

Exterior views can be rendered, illustrated or line views.

Single Sheet Only

Event	Details	Event #
Presentation Drawing - Any Method Other Than Computer.	Residential-Exterior View & Floor Plan ONLY	HP31200
Presentation Drawing [2D CADD]	Residential-Exterior Front Elevation View and Floor Plan ONLY.	HP31201
Presentation Drawing [3D CADD]	Residential-Exterior View & Floor Plan ONLY.	HP31202
Presentation Drawing - Commercial/Public Structure - Any Method Other Than Computer.	Residential-Exterior View & Floor Plan ONLY.	HP31203

Presentation Drawing - Commercial/Public Structure [2D CADD]	Commercial-Exterior Front Elevation View and Floor Plan ONLY.	HP31204
Presentation Drawing - Commercial/Public Structure [3D CADD]	Residential-Exterior View & Floor Plan ONLY.	HP31205

Architectural Media

Architectural Media uses rendering methods to create realistic views of a structure or landscaped area. Animations (Walkthrough and Flythrough) show how navigating a structure or site would look.

Event	Details	Event #
Architectural Media - Computer Generated Original 3D Image - Landscape	Structures can be included but are not the focus of the image.	HP31300
Architectural Media - Computer Generated Original 3D Image - Architectural Structure	Landscaping can be included but is not the focus of the image.	HP31301
Architectural Media - Architectural Walkthrough - 90 sec max	Camera height between 4'-7' above ground level.	HP31302
Architectural Media - Architectural Flythrough - 90 sec max	Camera height at least 20' above ground level.	HP31303
Architectural Media - Landscape Walkthrough - 90 sec max	Camera height between 4'-7' above ground level.	HP31304

Interior Design

Event	Details	Event #
Residential Interior Design Material Sample Board	Design boards should include but not limited to samples for all finishes, color coordination, sample furniture and other import design elements. Floor plans should be included showing finishes, furniture layout, and room names. All elements should be	HP31400
Commercial Interior Design Material Sample Board	Design boards should include but not limited to samples for all finishes, color coordination, sample furniture and other import design elements. Floor plans should be included showing finishes, furniture layout, and room names. All elements should be	HP31401
Residential Illustrated Perspective Interior View. Any Method Other Than Computer.	Interior view focusing on furniture and finishes. Perspective can be either Single Point or 2 Point perspective. Illustrating using any method including but not limited to pencil, pen, charcoal, or marker is	HP31402

Commercial Illustrated Perspective Interior View. Any Method Other Than Computer.	Interior view focusing on furniture and finishes. Perspective can be either Single Point or 2 Point perspective. Illustrating using any method including but not limited to pencil, pen, charcoal, or marker is	HP31403
Residential Illustrated Perspective Interior View.[CADD]	Interior view focusing on furniture and finishes. Perspective can be either a Single Point or 2 Point perspective. Rendering is required. Single Sheet not to exceed 18"x24".	HP31404
Commercial Illustrated Perspective Interior View.[CADD]	Interior view focusing on furniture and finishes. Perspective can be either a Single Point or 2 Point perspective. Rendering is required. Single Sheet not to exceed 18"x24".	HP31405

Section 3.2 Models

Items in this section involve projects in which students created and designed structures, models, used commercial kits, or highlighted the design process.

Use of AI applications are prohibited. Use of AI will result in disqualification of entry.

The base of a model cannot exceed 24"x36".

Document for these events must include:

- Texas TSA Documentation form
- The floor plan - not to exceed 24"x36"

Finish Models

Finish Model - a scale model that incorporates the materials, design details, topography and landscaping to create a realistic version.

Event	Details	Event #
Finish Model of a Residential Single Family Home		HP32000
Finish Model of a Residential Multifamily Home (Apartment, Condo, Townhouse, or Duplex)		HP32001
Finish Model of a Residential Structure not listed		HP32002
Finish Model of a Master Plan Development		HP32003
Finish Model of a Commercial Building		HP32004
Finish Model of a Public/Recreational Facility		HP32005
Finish Model of a Civil Structure		HP32006
Finish Model of a Space Structure		HP32007

Structural Models

Structural Model - a scale model that represents the load-bearing elements of a structure or building and is also used to investigate how the structure will perform its various conditions.

Event	Details	Event #
Structural Model of a Single Family or Multifamily Residential Home		HP32100

Study Models

Study Model - a scale model that is minimal in detail for the purposes of visualization design ideas and concepts during the design process. The model is to include structure and topography only. Material details and landscape are not allowed.

Event	Details	Event #
Study Model of a Single Family or Multifamily Residential Home		HP32200
Study Model of a Commercial Building		HP32201

Kits

Project Documentation must also include the following items:

Photo documentation of kit assembly

Event	Details	Event #
Kits - Woods		HP32300
Kits - Metals		HP32301
Kits - Electrical/Electronics		HP32302
Kits - Other		HP32303