

New York State Technology Student Association

2012 State Conference

"MAKING THE STEM CONNECTION"

**Saturday April 28th 2012
DeWitt Middle School
Ithaca NY**



**Level II Rule
Modifications**

2011-2012 NYSTSA

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FORWARD

The diverse competitive STEM (Science, Technology, Engineering and Mathematics)-based events that are listed within this booklet are open to NYSTSA chapters and other groups registered to compete in the 2012 NYSTSA State Conference. This packet contains the competitive events in alphabetical order, the maximum number of participants or teams permitted to compete in each event and, the names and contact information of the event coordinators.

For this year's NYSTSA Conference, the following registration packages are offered:

1. **Full Registration**-This package requires affiliation with both the National TSA and NYSTSA. This registration level allows schools to participate in ALL the events listed in this booklet. Affiliation with National TSA <www.tsaweb.org> includes state and national dues for one year. Once affiliated at the National level you will receive the "Total TSA" CD-ROM. This contains all the information students and their advisors will need for membership, competitive events rules and leadership activities.
2. **NY/STEM Registration**-This package is intended for those who would like to sample the excitement of STEM-based events specifically designed for the NYSTSA Conference. Registrants are ONLY eligible for certain events. See list and key on the following page.

Please refer to Conference Registration form for costs and deadlines.

All events and their rules listed in this booklet are modified in accordance with the National TSA High School Competitive Events Guide unless otherwise specified in the field labeled "Modifications:" located at the top of each event. Certain examples of exceptions are events that are uniquely NY/STEM events. These events DO NOT appear in the National TSA High School Competitive Events Guide.

It is the hope of the Student Officer Team, their advisors and the Board of Trustees that this guide will enable students, competitive event judges, and teachers/advisors to better prepare for this exciting STEM-based competition. The challenges that face us all, demand a swiftly growing literacy in science, technology, engineering and mathematics. We hope you will see this reflected in the events described here. Come, learn and have fun!

Any questions may be directed to Ms. Evie Weinstein at <nystsa1@gmail.com>

General Rules Governing Competitive Events

I. HIGH SCHOOL EVENTS AND EVENT COORDINATORS CONTACTS

*On-Site Judging	* * Pre-Competition Judging
Architectural Model Patrick Griffin patrick@phiglobalmedia.com Computer Aided Design (3D Modeling) Event Coordinator - Mike Giallombardo mr_g14625@yahoo.com	Digital Video Production Event Coordinator Caitlyn Vander Maas cvmaas82@gmail.com Music Production Event Coordinator Jennifer Kivisild jkivisil@icsd.k12.ny.us
Catapult Challenge Event Coordinator – Stephanie Supa sms463@cornell.edu	Promotional Graphics Jennifer Hungate Jennifer.Hungate@lechase.com
Debating Technological Issues Evie Weinstein nystsa1@gmail.com	Webmaster Mike Giallombardo mr_g14625@yahoo.com
Dragster Design Event Coordinator-Jeff Perry jap255@cornell.edu	
Fashion Design Carol Spence cspence@icsd.k12.ny.us	
Flight Endurance William Sauve wsauve@icsd.k12.ny.us	
Geocache John Udall jsu1@cornell.edu	
Photographic Technology Judy Cogan jcogan@icsd.k12.ny.us	
Problem Solving David Buchner dbuchner@icsd.k12.ny.us Bob Walters bwalters@icsd.k12.ny.us	
Structural Engineering Barry Passer bpasser1@twcnny.rr.com	
Sumo Bots Rob MacCurdy rmb7@cornell.edu	

***On-Site Judging:** Events that are either prepared at the home school and judged at competition **OR** completed entirely on-site at competition. See individual event descriptions for detail.

****Pre-Competition Judging:** Submitted and judged prior to competition. These events may or may not include a finalist interview performed on site. See individual event descriptions for detail.

Note: Events in **red** font are unique to NY and the NYSTSA Conference. Chapters or groups who register for NY/STEM registration (see registration packages on previous page) are restricted to only these events.

II. PARTICIPATION IN COMPETITIVE EVENTS:

- A. Students must be registered at the State Competition in order to enter and compete in a competition. Pre-registration is required. (See registration packages on page 3. There is no walk-in registration.**
- B. No substitutions will be accepted after registration closes.**
- C. Neither school nor individual names can appear on projects; only ID#s are to be used. Students are automatically assigned an ID# which they will receive at check-in. This number needs to be on all student projects and worn to all events.**
- D. Projects/entries must be picked up and dropped off at the time stated in the competition agenda.**

III. COMPETITIVE EVENTS ATTIRE

ALL STUDENTS ATTENDING THE COMPETITION MUST wear official NYSTSA Conference Attire. Your cooperation with this policy will assist in providing a positive image for the organization and its members.

A. NYSTSA Conference Attire should consist of appropriate shoes (no open-toed shoes), black socks, neutral pants or skirt (no cargo pants etc.), and a chapter TSA shirt/polo of each school's choice. If a school cannot design their own chapter shirt/polo for the conference, standard TSA Polo's and shirts can be purchased from the national TSA store website via <http://www.costore.com/tsa/welcome.asp>. For non-NYSTSA groups - at minimum students must wear a blue polo shirt on which conference ID tags can be worn. These will be available at the NYSTSA Conference.

Students NOT wearing New York State TSA approved attire will lose 20 points from total score of each event entered. Hats are NOT permitted. Examples of TSA official attire can be found on the National TSA website at <http://www.tsaweb.org> .

IV. PROPERTY DAMAGE OR LOSS

DeWitt Middle School and NYSTSA are not responsible for the damage or loss of property brought to the competition.

Architectural Model

Level II – NYSTSA

On-Site Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Patrick Griffin patrick@phiglobalmedia.com

Overview:	<p>Delete-Participants will design, draw, and construct a model home that maximizes energy efficiency. Finished projects must show attention to the best and most current, practices in Building Science with respect to: framing, insulation, heat loss calculations, roofing materials, location, climate, and green building materials.</p> <p>Design Requirements Include:</p> <ol style="list-style-type: none">1. 1050 Square Feet- Crawlspace only.2. 3 Bedrooms3. 1 Bathroom4. Covered entryways (no step entries)5. Green storage/utility -furnace electricity and water heating <p>Design Requirements can be found at: http://www.habitat.org/how/whatlike.aspx http://www.habitat.org/how/naexamples.aspx.</p> <p>Energy Efficiency References: www.buildingscience.com</p>
Purpose:	Delete-Students will demonstrate an understanding of and proficiency in the process of green architectural design, calculating heat loss, energy efficient building plans and materials, and basic modeling techniques.
Eligibility:	Delete- Six (6) entries per chapter with up to three (3) students per team.
Time Limits:	No Change
Attire:	Delete-NYSTSA Conference Attire
Procedure:	Delete-C Delete-D Delete-E
Regulations:	B5-Delete E Add B5 f. heat loss calculations (R-values) for roof and walls Delete-B6 Modification B7-A list of references that were used to research energy-efficient construction materials. These citations must be word-processed and be in MLA style. Delete-B8 Delete C-Model and documentation must display only ID number(s) for identification purposes. Delete-D5
Evaluation	Delete-Evaluation will be based on points earned in the rubric that follows.

Architectural Model
LEVEL II – NYSTSA
Official Evaluation Rubric

Evaluative Criteria	pts	Participant ID Numbers							
Floor Plan									
Neat with no free hand lines	10								
Proper architectural symbols/ sq. footage	10								
Drawn at ¼ scale	10								
Layout / Room Orientation	10								
Subtotal	40								
Architectural Model									
Quality of Construction	10								
Adherence to Energy and Habitat Criteria & R-value calculations	20								
Appropriate and effective use of green materials	15								
Landscaped site (no larger than 24" square)	5								
Exterior design/aesthetic appeal	5								
Interior design/aesthetic appeal	5								
Subtotal	60								
TOTAL	100								

Evaluator: I certify these results to be true and accurate to the best of my knowledge.

Print Name: _____

Signature: _____

JUDGES: _____

C.A.D. 3D Modeling (Computer Aided Drawing)

Level II – NYSTSA On-site Judging

Modifications: This is a New York STEM event

Event Coordinator: Michael Giallombardo : mr_g14625@yahoo.com

Overview:	This event will test the student's knowledge and ability to create a CAD 3D model of an on-site problem.
Purpose:	Students will demonstrate an understanding of and proficiency in designing and building a 3D object using specific 3D Computer Aided Design software. Participants will display their knowledge of measurement, and drawing to scale. Successful completion of this event will draw on engineering, technology and math knowledge.
Eligibility:	Three (3) entries per chapter or group. Individuals only
Time Limits:	2 hour event, 1.5 hours of work time. 10 minutes to set up computer
Attire:	NYSTSA Conference Attire
Procedure:	<p>Students need to bring a laptop with CAD 3D modeling software already installed.</p> <p>Examples of software titles:</p> <ul style="list-style-type: none">- Rhinoceros 3D- Autodesk Inventor- Solidworks- Google SketchUp- Blender <p>Students will receive a design brief/ schematic with the component they need to draw. Students will have 1.5 hours to build the component. At the conclusion of the event, the students will exit the room and leave the laptop at the contest site for the judges to evaluate. All laptops will be returned to students at the conclusion of the judging time.</p> <p>DeWitt Middle School will have desktop computers available to use with Autodesk Inventor 2012 loaded. Email the Event Coordinator if a student cannot provide his/her own laptop or needs a desktop computer provided by DeWitt Middle School.</p>
Regulations:	Once the time limit expires for building the component, students will leave the computer running and logged in with the software open for judges to evaluate.
Evaluation	Judges will have 20 minutes to evaluate each entry and return laptops to students.

CAD

2011-2012 NYSTSA Form

HIGH SCHOOL

PARTICIPANT / TEAM ID#									
EVALUATIVE CRITERIA									
Modeling technique (30pts) -Correct Geometry = 15pts -Use of appropriate procedures = 15pts									
Dimensioning (correct size, location and proportion) (10pts)									
Design and creativity (20pts) - Design = 10pts - Functionality/originality = 10pts									
Scale (5pts)									
Aesthetics of 3D model (10pts) - Color/texture of model = 5pts - Orientation of model on screen at time of judging = 5pts									
Scale (5pts)									
SUBTOTAL (80pts)									
Rules violation (must be initiated by coordinator and manager) minus 20% of the total possible points									
TOTAL (80pts)									

Comments:

I certify these results to be true and accurate to the best of my knowledge.

Evaluator:

Printed name: _____ Signature: _____

Catapult Challenge

Level II

On-Site Judging

Modifications: This is a New York-STEM based event. Complete rules follow.

Event Coordinator: Stephanie Supa sms463@cornell.edu

Overview:	Participants will research, plan, and construct a lever machine (catapult) to demonstrate their knowledge of technology and the principles of simple machines.
Purpose:	Participants will demonstrate their ability to research, design, draw, and build a catapult that illustrates the principle of a lever.
Eligibility:	Five (5) entries per chapter three (3) students per team.
Time Limits:	All entries must be completed by middle school students in the current NYSTSA school year.
Attire:	NYSTSA Conference Attire.
Procedure:	<p>A. Participants will check in their entries at the time and location stated in the conference program.</p> <p>B. When entries are judged neither students nor advisors are present at this time.</p> <p>Competition Procedures:</p> <p>A. Target: The target will consist of two 2inch high walls mounted on a 4foot diameter target with an inner 12inch diameter wall and an outside 48inch diameter wall.</p> <p>B. Catapults will be hand launched from the designated launching site. The target location will be selected between 25-50feet in 5foot increments from the launching site.</p> <p>C. One set distance will be selected at the start of the competition, and will remain constant throughout the competition.</p> <p>D. Participants will be given one test launch to make any necessary adjustments. (weights, balance, fit etc.)</p> <p>E. Participants will be given two launches for the competition. The closest distance to the target of the two launches will be judged to determine the accuracy points.</p>
Regulations:	<p>A. Students may construct their catapults out of any desired material.</p> <p>B. The catapult's base dimensions will not exceed the measurement of 30 inches cubed assembled and in the catapults set (firing) position.</p> <p>C. A lever, or lever system MUST be utilized. Entries built as slingshots, or lacking a lever or lever system will be disqualified.</p> <p>D. All entries MUST utilize a pneumatic, hydraulic, or electric launch system. Entries may not be launched by human force.</p> <p>E. The projectile used will be a standard sized Hacky Sack weighing approximately 50 grams.</p> <p>F. Along with their catapult teams must submit a binder with the following pages;</p> <ol style="list-style-type: none">1. Table of Contents (1 page)2. Research Report; a collection of material explaining the principles of

	<p>levers as related to the design submitted, as well as a short history of the catapult. This report should also contain a description of the launching system used in the design submitted. This portion may include some pictures or charts. (Pages as needed)</p> <p>3. Technical Drawings; a detailed drawing in two views for each part of the catapult that is cut and assembled separately. The drawings must use metric dimensions and be written on no larger than B size paper with a border and title block. Drawings should be developed using standard engineering practices and procedures. The drawings may be produced using traditional drafting methods but may also be drawn using CAD programs. Copies of drawings are acceptable.</p> <p>G. No spring-loaded systems, ballistic mechanisms, or trebuchets will be permitted. Immediate disqualification will occur if these items are present.</p>
<p>Evaluation</p>	<p>Evaluation will be based on points earned for the drawings and written portions, as well as the catapult test as described below.</p> <p>A. Judging Break-down</p> <ol style="list-style-type: none"> 1. Table of Contents.....5pts. 2. Research Report.....20pts. 3. Technical Drawings.....25pts. <p>B. Catapult Test-Points Earned</p> <ol style="list-style-type: none"> 1. The 1st place winner of the catapult throw will receive 30 points. Catapults ranked 2nd through 10th place each receive a four point deduction. (i.e. 1st Place=30pts. 2nd Place=26pts.-----etc) <p>All other catapults launched will receive 10 points.</p> <p>C. Launching Mechanism</p> <ol style="list-style-type: none"> 1. The launching device will be judged out of 20 points on its design, functionality, and difficulty.

Debating Technological Issues

Level II – NYSTSA

On-Site Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Evie Weinstein nystsa1@gmail.com

Overview:	Delete-The debate topic (“motion”) will be selected from an area in bio-medical genetic engineering.
Purpose:	No Change
Eligibility:	Delete- Maximum eight (8) teams. Maximum two (2) teams of two (2) students per chapter or group. First-come-first-served. May expand to accommodate #s.
Time Limits:	Delete-B Delete-C
Attire:	Delete-NYSTSA Conference Attire
Procedure:	A. No subtopics. Participants should come prepared to debate a motion (topic) that will be announced at the event. The motion will relate to bio-medical genetic engineering. D. Following the assignment of debating viewpoint, the specific motion will be given to the two teams. Both teams will be allotted 10 minutes for preparation in a holding room. They will re-convene for the debate. E. Quick Debate format will be used exclusively. No preliminary heats. Delete-G Delete-L Delete-N Delete T- There will be a finalist debate where a new motion relating to the same general topic will be given. Finalists will be allotted 10 minutes preparation time prior to beginning the final round. Finalist debate times will be announced once registration closes so as to accommodate the maximum number of participants and allow for event conflicts. Delete-U Delete-W
Regulations:	A - No subtopics F, and G - Final round is open to any observer Delete I - No observers during initial rounds of debate. No applause until debate is over. Delete K Delete L - Reference summary is one page only, word-processed (handwritten is not acceptable). MLA format must be used to cite sources. There are no subtopics. The references must be given to the judges at the beginning of the team's debate round. Not having a summary of references will be grounds for a rules violation of 20 points.
Evaluation	Delete-Evaluation will be based on a team's knowledge of the topic area and effective use of persuasive communication skills. <i>Intelligent and courteous humor is also favored by this event coordinator!</i>

Dragster Design

Level II – NYSTSA

On-Site Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Jeff Perry jap255@cornell.edu

Overview:	No Change
Purpose:	No Change
Eligibility:	Delete- 10 Entries per chapter. Individuals only.
Time Limits:	No Change
Attire:	Delete-NYSTSA Conference Attire
Procedure:	Delete-D Delete E-All cars will be permitted to race however, cars that do not meet specifications will be assessed a 20% penalty for each rules violation. 20% will be deducted from total number of points earned. Delete-F Delete-G
Regulations:	No Change
Evaluation	A. No wind tunnel tests will be performed. B. Dragster construction will be worth 25 points and cars will be scored ranking them similar to race times.

Fashion Design

Level II – NYSTSA

On-Site Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Carol Spence cspence@icsd.k12.ny.us

Overview:	<p>Delete-Participants will design and create ONE complete piece of clothing along with a production binder, including hand and computer-drawn design process sketches working with the years' assigned theme.</p> <p>The challenge theme for 2012 is Fashion of the 1940's.</p>
Purpose:	<p>Delete- Manufacturing of fabric has long been a vital economic and highly technical process involving many diverse trades. Clothing not only provides everyday coverage and protection for the elements but can also be interpreted as a social construct of trend setting and historical stylization. This competitive event allows NYSTSA participants to experience the fashion world creating not only useful casual clothes but also exciting designs for various locations, and occasions. At the same time, students will develop an understanding of the resources, costs, diverse technological skills and limits to production that are part of the manufacturing process.</p>
Eligibility:	Delete- Four (4) entries per chapter with teams of 2-4 students.
Time Limits:	No Change
Attire:	Delete-NYSTSA Conference Attire
Procedure:	<p>Modification D-Team members may be models.</p> <p> ^ Delete H- Each interview will last approximately five minutes. The interview will consist of a two-minute modeled presentation and a three-minute interview. Semi-finalists will be given five minutes-preparation time prior to the start of the interview.</p>
Regulations:	<p>Modification A- Portfolio and garments should be submitted in a formal manner. Garments should be presented on hangers and in protective bags or garment bags. A dressmaker's dummy is optional. A 32-quart plastic storage box is not necessary.</p> <p>Delete B1f-Design process sketches (hand drawn); 2-3 sketches, pages as needed.</p> <p>Delete B1g-Computer-drawn final design print-out; 1-2 pages. Please show the garment from three views. Front, back, and a side view.</p> <p>Modification C-2 mock-ups/patterns are required.</p> <p>Delete D1-Only one garment should be submitted.</p>
Evaluation	<p>Add- During the interview students should be prepared to address costs, origins of materials (geographic and source, eg, natural versus fossil fuel-based) tensile strength, threads per inch, manufacturing process of raw materials, and limits to production (resources, processing, labor, etc).</p>

Flight Endurance

Level II – NYSTSA

On-Site Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: William Sauve wsauve@icsd.k12.ny.us

Overview:	No Change
Purpose:	No Change
Eligibility:	Delete-Three (3) entries per chapter. Individuals only.
Time Limits:	Delete D-Participants will fly their entries at the time and place stated in the conference program.
Attire:	Delete-NYSTSA Conference Attire
Procedure:	Delete-B Delete-D
Regulations:	Modification A3-Experts from the Academy of Model Aeronautics (AMA) and the National Free Flight Society (NFFS) will not be present at the NYSTSA Conference.
Evaluation	No Change

Geocache

Level II

On-Site Judging

Modifications: This is a New York-STEM based event. Complete rules follow.

Event Coordinator: John Udall jsu1@cornell.edu

Overview:	<p>Try Geocaching! How fast can you find the hidden treasures? Use a GPS and follow the clues. Geocaching is a real-world, outdoor treasure hunting game using GPS-enabled devices. Participants navigate to a specific set of GPS coordinates and then attempt to find the geocache (container) hidden at that location. This is done by taking a “waypoint” for the starting location and each geocache site as you proceed through the course. Students will become proficient with the use of GPS, an emerging technology while fostering critical thinking, geography, math, science and physical fitness skills.</p>
Purpose:	<p>Learn about land navigation using the Global Positioning System (GPS). Learn about latitude and longitude. Learn about accuracy of GPS receiver units. Learn about the sport of geocaching. Learn about how to use a GPS unit to navigate to a location. Learn how to determine the coordinates of a location using a GPS unit.</p> <p>Participants will increase their familiarity with latitude and longitude coordinate systems for land navigation through a real-world exercise. Enhance problem solving skills. Develop an understanding of the capabilities and limitations of GPS technology. Become familiar with the use of GPS-enabled devices.</p>
Eligibility:	8 Teams of up to 2. Two orientation sessions. 1-2 members per team
Time Limits:	1 hour activity time (+ 10 minutes prep time)
Attire:	Dress to be outside, appropriate for weather conditions at the time of the event. This event will take place rain or shine.
Procedure:	<p>Coordinates of the locations of Geocaches will be uploaded onto GPS units (or a pre-loaded GPS will be provided) for each competing individual or pair. A clue sheet with hints for the locations of each geocache will be provided. Teams will be provided with a worksheet to fill out for this event.</p> <p>A brief tutorial and handout for how to use the GPS’s will be provided. A total of 20 geocaches will be placed in various around the Dewitt Middle School campus.</p> <p>Each team will be provided a list of geocaches to visit and an order in which to visit them. (The order will be different for each team.)</p> <p>Teams will try to find as many geocaches as possible within the time allotted. Teams will be asked to complete the following tasks:</p>

	<p>Use the GPS unit to take a “waypoint” of the starting location. Write down the latitude, longitude of the starting location.</p> <p>Use the GPS unit to find as many geocaches as possible within the time allotted. Go to each in the order that the team has been provided (different for each team).</p> <p>For each Geocache:</p> <ul style="list-style-type: none"> E. Find the geocache. F. Identify what is hidden in the geocache. G. Sign the logbook contained in the geocache with the id numbers of all of the team members, include the date and time. H. Replace the geocache in its original hidden location. (Put it back where you found it, so that it is still hidden in the same way for the next team.) I. Take a “waypoint” of the location of the geocache. J. Write down on the worksheet. <ul style="list-style-type: none"> K. The number identifier of the geocache L. A description of the contents of the geocache. M. The current date and time. N. The coordinates of the geocache according to the waypoint taken using the GPS unit. <p>If the coordinates from the waypoints taken at the location of each geocache do NOT match the coordinates listed on the Geocache hint sheet, explain why this might be.</p>
Regulations:	<p>Participants will be provided with GPS units for use in this activity. Participants may bring their own GPS units to use. If they choose to use their own GPS unit, then they must bring a USB data cable. We will attempt to upload the Geocache location coordinates to the participants GPS units. If we are unable to upload the Geocache coordinates to the participants’ GPS unit (for whatever reason, ie. – incompatible software, no data cable, etc.), then they will have the option to either enter the Geocache coordinates manually from a paper Geocache clue sheet. Or they may choose to use one of the pre-loaded GPS units available for this activity.</p> <p>There will be a training session for those wishing to learn how to use this technology for the first time. Students who take this orientation may also register to compete, and will be scheduled during the third session in the afternoon.</p> <p>Participants should follow good geocaching style in trying not to give away the location of any geocaches to other teams while at the same time trying to locate where the geocaches are hidden.</p>
Evaluation	10 point penalty: For geocaches that are not placed back in their original locations.

10 point penalty: For geocaches that have their contents removed or changed.

Maximum of 50 points for each geocache found if it includes the following information: 1.) geocache identifier, 2.) description of geocache contents, 3.) date & time of geocache was found, 4.) coordinates of waypoint taken at location of geocache (latitude & longitude N|S|E|W), 5.) waypoint of geocache downloaded from GPS unit.

Maximum of 25 points for the coordinates of the starting waypoint.

Maximum of 25 points for accurate response to question about whether coordinates provided for the location of the geocache match the coordinates of waypoint taken at the geocache location, and explanation of why they might differ.

Geocaches found after time limit will not be scored.

Photographic Technology

Level II – NYSTSA

On-Site Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Judy Cogan jcogan@icsd.k12.ny.us

Overview:	Delete – Students capture images and process photographic and digital prints that depict the current year’s published theme. Students will participate in an on-site event in which they capture digital images and utilize multimedia software to edit their work. The theme for 2012 is <i>The Beauty of Technology</i>
Purpose:	No Change
Eligibility:	Maximum 30 entries per state. Individual event. First come, first serve.
Time Limits:	Delete – Entries must be started and completed on-site at the NYSTSA Conference. Specific time limits will be given on-site.
Attire:	Delete–NYSTSA Conference Attire
Procedure:	Note: Change “semifinalists” to “participants” in all fields. Delete -C Modify D – Each participant must have a digital camera and a computer with photo-editing software and word-processing program (Microsoft Word, Open Office, etc.), a standard 15 pin VGA cable port, and a USB port, as well as a USB memory stick to compete. (If a student is in need of equipment, please contact the event coordinator). Delete-E Modify F – Participants use the assigned time for the first stage in which they capture images in accordance with event coordinator instructions. Delete-G Modify I – During the second stage of the event, students will edit their top two (2) chosen photos for judging. Images may be presented in either color or black and white. In addition, participants must include an explanation of how a digital camera functions in an approximately 200 word paragraph. Delete-K
Regulations:	Delete-A Modify B – Each entry must include four (4) separate prints of two images (two unedited, two edited). Images must fit on two single sided pages, with two images of equal size per page. (Edited on top and un-edited on the bottom half of page). Delete-C Delete-D Delete-E Delete-F Modify G- Captions are required for each edited image and must be no longer than 20 words. Delete-H Modify J – No recognizable individuals may be present in the images. Delete-K Individuals should load their entries after completion on-site onto their USB

	memory stick with only their assigned ID number (given on-site) as means of identification. The images, their captions, and paragraph description of a camera should be compiled onto one PDF document labeled "Photographic Technology ID number _____"
Evaluation	Delete – Evaluation will be based on points earned in the following rubric.

Photographic Technology

LEVEL II – NYSTSA

Official Evaluation Rubric

Evaluative Criteria	pts	Participant ID Numbers							
Images									
Composition	25								
Lighting and Special Effects	15								
Creativity in Imaging	20								
Captions	5								
Effectiveness in Depicting the Theme	10								
Presentation quality and impact	10								
Subtotal	85								
Other									
Paragraph Description	10								
Formatting (Labels, etc.)	5								
Subtotal	15								
TOTAL	100								

Evaluator: I certify these results to be true and accurate to the best of my knowledge.

Print Name: _____

Signature: _____

JUDGES: _____

Problem Solving

Level II – NYSTSA

On-Site Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: David Buchner dbuchner@icsd.k12.ny.us

Bob Walters bwalters@icsd.k12.ny.us

Overview:	No Change The challenge theme for 2012 is Water Quality. The problem itself will be delivered on-site.
Purpose:	No Change
Eligibility:	Delete- Two (2) teams of two (2) students per chapter.
Time Limits:	Delete-One hour is given to participant to solve the given problem on-site.
Attire:	Delete-NYSTSA Conference Attire
Procedure:	Delete A- All materials and tools will be supplied by the event coordinators.
Regulations:	No Change
Evaluation	No Change

Structural Engineering

Level II – NYSTSA

On-Site Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Barry Passer bpasser1@twcny.rr.com

Overview:	All entries are built prior to the Conference and brought to the site.
Purpose:	All entries are built off-site and brought to the Conference for evaluation.
Eligibility:	Delete- Unlimited teams of 1-3 students per chapter.
Time Limits:	Delete-A Delete-B Delete-C All entries should be completed and assembled prior to arriving to the competition. Only the destructive testing will be performed on-site.
Attire:	Delete-NYSTSA Conference Attire. Students are required to wear eye safety at all times throughout this event.
Procedure:	Modification B-These items and building tactics should be used in the construction of the tower, however do not need to be brought to the competition. Regulations on amount of glue are still enforced. Modification C-Entries must follow these regulations in the construction of their tower however, building materials will not be supplied and are the responsibility of the team. Delete-D Delete-E Delete F-The tower must be 12 inches tall. Delete-G Delete-H Delete-I Delete-J Delete-K Delete-M
Regulations:	Delete-A Modification B-Students are still restricted to this amount of wood. Delete-D Delete-E Students must supply a CAD drawing of their tower design.
Evaluation	No Change

Sumo Bots

Level II

On-Site Judging

Modifications: This is a New York-STEM based event. Complete rules follow.

Event Coordinator: Rob MacCurdy rbm7@cornell.edu

Description: Prior to the competition, students must design and construct a robot (bot) that will attempt to move an opponent's bot from a defined arena.

Team: Unlimited teams of two students per chapter. Impound: Yes Approximate Time: Two minutes competition time.

Devices are to be impounded prior to the event. Check with the Tournament Director for the impound schedule. Students may take the bot with them when they are eliminated from the tournament, but no appeals may be filed once a team has removed their bot from impound.

Robot Construction:

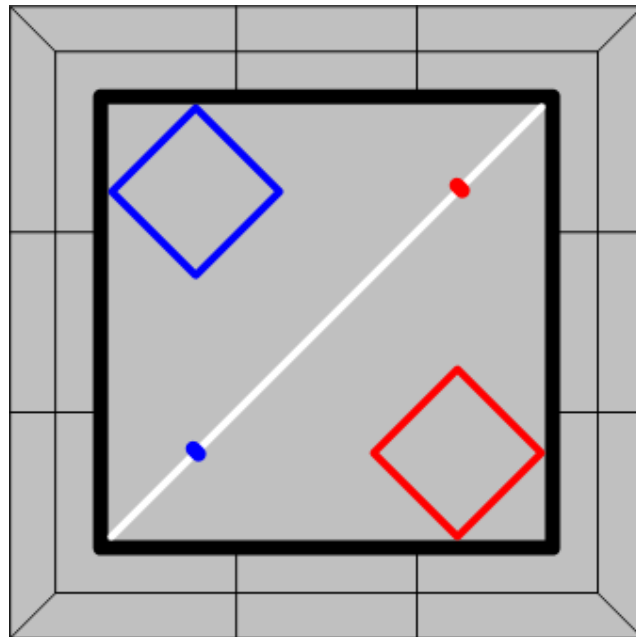
1. Teams may construct their robot from a variety of parts, including LEGO® MINDSTORMS® NXT, Pitsco TETRIX®, or VEX Robot kits. Remote control cars may be used if the stock car is modified in some non-trivial way, e.g., additions like scoops, arms, or any other offensive or defensive devices, etc. Teams must include their school name on their bot.
2. Robots must be controlled autonomously or tele-operated by radio remote (including Bluetooth or WiFi), meaning no cords or wires attached to the bot will be permitted; and tele-operated bots must be able to operate on at least three different frequencies (see SumoBots Frequency Facts document for details). Note, event supervisors may require teams to submit the three frequencies their bot can operate on prior to the competition.
3. The bot must be designed so that it is ready to run when called to do so within 2 minutes, e.g., batteries plugged in, switches turned on, and radio frequency channels changed, etc.
4. Robots must be powered by electricity, no fuel or combustion engine designs will be allowed.
5. The robot's maximum starting dimensions will be 40 cm long by 40 cm wide by 40 cm high. Items that cause a bot to exceed the starting 40 cm x 40 cm x 40 cm size are permitted if they return to fit within the allowed size within 10 seconds of a match's conclusion; failure to do so will result in bot disqualification for that match.
6. The robot must not weigh more than 2.0 kilograms including batteries. The weight of the associated remote control device is excluded.
7. The combined voltage of all batteries carried by the bot cannot exceed 14.4 volts. Battery voltage will be determined by the specifications stamped on stock batteries or as measured by a voltmeter prior to each match at the discretion of the Tournament Director. Impounded batteries are restricted to the batteries that run the bot and spares. No recharging facilities will be provided by the event supervisor other than a standard electrical outlet.
8. The robot may have devices designed to remove an opponent's bot from the arena using any method except projectiles, flames, sharp objects, magnets, pneumatic or hydraulic devices. Any robot that is deemed unsafe by the event supervisor shall be disqualified for the event and any team that deliberately attempts to do physical damage to an opponent's bot will be disqualified for the event.
9. Only the robot's wheels/track may make contact with the surface of the arena. Bots may not damage the surface of the ring or deliberately deposit any foreign substances onto the surface of the ring; bots that cause damage to the arena surface may be disqualified from event at the discretion of the event supervisor.

Competition:

1. Competition will proceed in double elimination tournament fashion with random pairings for the first round. When a round of the double-elimination tournament has an odd number of teams, one team will be randomly selected to receive a bye. A bye does not count as either a win or a loss. No team will receive more than one bye in a tournament unless a round is reached with an odd number of participants and all participating teams have already received a bye, in which case the second bye will be issued on a random basis.

2. Once called to compete, teams will have a maximum of 2 minutes to prepare their bot, e.g., plug in batteries, turn controls on, change frequency, etc. Any bot that is not ready to compete within 2 minutes of being called will forfeit their match. Teams may not work on their bots prior to being called to compete in their first match.

3. The arena of competition will be a 5' x 5' square outlined with 2" wide black gaffer's tape on gray SoftTiles set on the floor (see <https://www.softtiles.com/content/view/28/39/>). The arena will have 40 cm x 40 cm red and blue starting boxes outlined with 1" gaffer's tape in opposite corners of the arena. A strip of 1" white gaffer's tape will diagonally divide the two halves of the arena with red and blue "starting lines" marked in 2" squares of gaffer's tape located 40 cm from the right corner of the arena with respect to each bot's starting box, as shown below:



4. Robots will start facing each other in opposite corners of the square. The judge will place a tennis ball on the red and blue "starting lines." When the judge gives the 3-2-1-Go command, each team must first travel to their "starting line" located on their right. A team will have reached their "starting line" when they move their tennis ball. Teams may not turn to face or initiate contact with their opponent until: (a) they have reached their designated "starting line," or (b) their opponent has initiated contact with them. Any team that initiates contact or turns to face their opponent before either reaching their "starting line" or being engaged by their opponent will forfeit the match.

5. Teams will have two minutes to force the opponent from the arena. If no robot has been declared the match winner at the end of two minutes, the lighter of the two will be declared the match winner. If both robots are the same weight, the robot that reached its "starting line" first will be declared the match winner.

6. If parts fall off of a robot during a match that affects quality of play, the clock may be stopped at the discretion of the judge with the pieces removed and the match continued.

7. If any of the judges determine that a robot is taking a defensive posture or is backing away continually for 15 seconds, time will be called and that team will receive a stalling penalty. If this is

the team's first stalling penalty of the match, the match will resume where it left off with the "stalling" team's bot "disabled" for 15 seconds (i.e., its remote will be set down). If it is the second stalling penalty, the team will forfeit the match. Time spent attempting to reach the designated "starting line" at the start of a match will not be considered as "stalling." However, if one team reaches their "starting line" and turns to engage the other team and the other team begins to take evasive action rather than attempting to reach their "starting line," that time will be counted towards a possible stalling penalty.

8. If robots become entangled so that neither bot can move for 10 seconds, the judges will stop the clock, the teams will place their bots at their respective starting positions and match will resume.

9. A judge may call time if either of the bots is obviously experiencing radio interference. If the cause of the interference cannot be determined, the team may ask to change their frequency.

10. The definition of "out of square:" A bot will be declared the winner when the other bot is completely out of the black marked 5'x5' square (no longer touching the tape). This definition applies whether the bot has been forced out by their opponent or leaves under its own power.

11. If a robot is damaged during competition, the students may make repairs to the bot after the match, while they wait to be called for their next match. A supervised "pit area" will be set aside for each team so that there is no concern of students having access to other teams' bots.

12. Any team that continues to operate their bot after time has been called for a match will forfeit that match.

13. There will be no time outs allowed during a match, except as noted above.

Scoring:

Final rankings will be determined as follows: the team that wins the double elimination tournament will be awarded first place. The team that the winning team defeats in the last match of the tournament will be awarded second place. All other teams will be ranked by their number of wins. Ties will be broken by: (1) the total number of wins divided by the mass of the bot (high score wins) followed by (2) the mass of the robots (lower mass wins). Students may take their bots with them once they eliminated from the tournament; no appeals may be filed once a team has removed their bot from impound.

Digital Video Production

Level II – NYSTSA

Pre-Competition Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Caitlyn Vander Maas cvmaas82@gmail.com

Overview:	Delete-Participants develop a digital video/film that focuses on the given year's theme. Sound may accompany the film. The challenge theme for 2012 is to create a Promotional Video for the TSA.
Purpose:	No Change
Eligibility:	Delete- Unlimited teams per chapter. Teams of up to three (3) students.
Time Limits:	No Change
Attire:	Delete-NYSTSA Conference Attire
Procedure:	Delete-A Delete-B Delete-C This is a pre-judged event and will be produced and sent in prior to the competition date.
Regulations:	Delete E-Any footage from prior TSA events may be used in the video/film. All entries must be completed by high school students in the current NYSTSA School Year. Modification F-Any and all copyrighted material must be cited in the end credits of the video. Delete-G4 Delete-G11 DVD Case Art-Create artwork for a standard 7 ½ X 5 3/8" DVD case and insert artwork into case sleeve before mailing. This is a pre-judged event. All entries must be mailed to the address below and post-marked by April 9th 2012 . Entries post-marked after this date will be disqualified. All entries must be labeled with NYSTSA Registration ID numbers only. No names. Entries become the property of NYSTSA and will not be returned after judging. Caitlyn Vander Maas DeWitt Middle School 560 Warren Road Ithaca, NY 14850
Evaluation	Evaluation will use the National official rating form minus Self-evaluation, and Plan of Work log fields. Points for these items will be added to other fields. (See Below) <ol style="list-style-type: none">1. The script will now be worth 8 points.2. The purpose and description will now be worth 4 points.

Music Production

Level II – NYSTSA

Pre-Competition Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Jennifer Kivisild jkivisil@icsd.k12.ny.us

Overview:	No Change
Purpose:	No Change
Eligibility:	Delete- Unlimited teams of up to four (4) students per team. Teamwork is encouraged but a team of one (1) is permitted.
Time Limits:	Delete-D The top three finalists will be announced at the NYSTSA Conference Banquet. There will be no semi-finalists.
Attire:	Delete-NYSTSA Conference Attire
Procedure:	Delete-A Delete-B Delete-C Delete-D This is a pre-judged event. All entries must be mailed to the address below and post-marked by April 9th 2012 . Entries post-marked after this date will be disqualified. All entries must be labeled with NYSTSA Registration ID numbers only. No names. Entries become the property of NYSTSA and will not be returned after judging. Jennifer Kivisild 326 Forest Home Drive Ithaca, NY 14850
Regulations:	Modification J-Notebooks may be submitted as a stapled packet, without a binder if so desired.
Evaluation	No points will be deducted for documents submitted without binders.

Promotional Graphics

Level II – NYSTSA

Pre-Competition Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Jennifer Hungate Jennifer.Hungate@leCHASE.com

Overview:	Delete-Participants develop and present a graphic design to be used to promote NYSTSA. First place winners designs will be printed on T-shirts. The design must be appropriate and must promote NYSTSA.
Purpose:	No Change
Eligibility:	Delete- Unlimited entries. Individuals only.
Time Limits:	No Change
Attire:	Delete-NYSTSA Conference Attire
Procedure:	Delete-A Delete-B Delete-C Delete-D All entries are to be completed and sent in before the competition date. All entries become the property of NYSTSA and will not be returned after judging. Entries may be used for promotional purposes in the future.
Regulations:	Modification B3-Designs should be submitted in color, however the selected 1 st place winner's design will be printed monochromatically. Delete-B4 Delete-B5B This is a pre-judged event. All entries must be mailed to the address below and post-marked by April 9th 2012 . Entries post-marked after this date will be disqualified. All entries must be labeled with NYSTSA Registration ID numbers only. No names. Entries become the property of NYSTSA and will not be returned after judging. Jennifer Hungate 896 Plank Road Penfield, NY 14526
Evaluation	The official rating form will still be used however, entries will be judged on effectiveness of promoting NYSTSA rather than effective depiction of the competitive event as listed on the rating form.

WEBMASTER

Level II – NYSTSA

Pre-Competition Judging/On-site Judging

Modifications: Modifications are made in accordance with the National TSA High School Competitive Events Guide.

Event Coordinator: Michael Giallombardo | mr_g14625@yahoo.com

Overview:	Participants are required to design, build and launch a World Wide Web site that features the school's career and technology education program, and the TSA chapter. <i>Delete everything else in the paragraph.</i>
Purpose:	No change
Eligibility:	Unlimited entries per chapter - Groups of up to 3
Time Limits:	<p>A - All components of the chapter's entry must be finished and accessible via the Internet by midnight Eastern Daylight Time (EDT) on April 13th. After midnight April 13th, changes should not be made to the website. Entries post-marked after this date will be disqualified.</p> <p>B - The URL for the chapter's entry must be Emailed to mr_g14625@yahoo.com by midnight on April 13th. The subject line of the Email must be: Webmaster. . All entries must be labeled with NYSTSA Registration ID numbers only. No names. Entries become the property of NYSTSA and will not be returned after judging. A Email confirmation will be sent no later than April 20th.</p> <p>C - Delete</p>
Attire:	Delete-NYSTSA Conference Attire
Procedure:	<p>A - No change</p> <p>B - Change Email to mr_g14625@yahoo.com</p> <p>C - Delete chapter's research about a technological topic</p> <p>D - No change</p> <p>E - Delete</p> <p>F - Delete</p> <p>G - Delete</p> <p>H - Delete</p>
Regulations:	<p>A - No change</p> <p>B1, B2- No change, Delete B3</p> <p>C1, C2 - No change</p> <p>D - No change</p> <p>E - No change</p> <p>F - No change</p> <p>G - Delete - Create a sources cited webpage with a list of where the information came from. Use MLA style as a guide</p> <p>H - No change</p> <p>I - Delete</p>
Evaluation	<p>A - No change</p> <p>B - Delete</p>