



## Nuclear Power Institute's Clean SMARTS Master Class Competition

# GUIDELINES

### Why?

The NPI “Clean SMARTS Master Class” provides opportunities for 6<sup>th</sup> – 12<sup>th</sup> grade students and educators to hear, learn, and be inspired by experts in the areas of cyber Security, Manufacturing, Automation, Radiation science, Technology, and Success skills (SMARTS). Experts in these fields shared their knowledge, expertise, and opportunities with audiences eager to acquire new skills, up-skill, and even learn the importance of retraining in an age of constant change. This master class supports the NPI Mission of developing the necessary workforce to sustain current, new, and emerging clean industries in Texas.

### Participants:

The competition is open to all Texas 6<sup>th</sup> – 12<sup>th</sup> grade Secondary Students and Texas 6<sup>th</sup> – 12<sup>th</sup> grade Secondary Educators who have completed the Clean SMARTS Master Class and received an official certificate of completion. The Clean SMARTS Master Class Finale will be hosted virtually on June 4<sup>th</sup> and 5<sup>th</sup>. No more than one entry per participant will be considered.

### Divisions:

Divisions	Awards	Deadline
<ul style="list-style-type: none"> <li>6<sup>th</sup> – 12<sup>th</sup> grade Texas Secondary Students</li> </ul>	<ul style="list-style-type: none"> <li>1<sup>st</sup> place - \$3,000</li> <li>2<sup>nd</sup> place - \$1,500</li> <li>3<sup>rd</sup> place - \$750</li> </ul>	By 11:59pm on April 30, 2021
<ul style="list-style-type: none"> <li>6<sup>th</sup> – 12<sup>th</sup> grade Texas Secondary Educators</li> </ul>	<ul style="list-style-type: none"> <li>1<sup>st</sup> place - \$3,000</li> <li>2<sup>nd</sup> place - \$1,500</li> <li>3<sup>rd</sup> place - \$750</li> </ul>	By 11:59pm on April 30, 2021

### Expectations:

You have reviewed/studied/explored all course information from the Clean SMARTS Experts in the areas of cyber Security, Manufacturing, Automation, Radiation science, Technology, and Success skills.



**Competition:** Do something with your new knowledge (select only one):

- A. Create a business plan for a non-profit organization or for-profit company that will address an aspirational need or goal. Define a mission for a non-profit organization to solve a pressing problem in society based on your own observations or an objective for a for-profit company, define your goal(s) and target(s). Develop the concept and create a plan to meet the need or opportunity using the concepts from or inspired by the Clean SMARTS courses.
- B. Invent a product concept that will address a challenge/issue you were inspired to pursue from the Clean SMARTS courses. Define the challenge/issue yourself from your own imagination and/or experience. Develop a description of the product and method of implementation (note: It has to be technically feasible – no teleportation devices.).
- C. Develop a Clean SMARTS Ambassador framework to influence policy, communicate with and educate society, and strengthen institutions’ (e.g. schools/universities and local, state, and federal agencies) ability to improve the public’s scientific literacy (note: You may focus on the institutions represented in the Master Class courses, but you are not limited to them.).

**Helpful Resources:**

- <https://nicebrains.com/life/business-pitch-example/>
- <https://www.ownmyinvention.com/learn/Five-Tips-On-How-To-Pitch-Your-Invention>
- <https://zipitclean.com/invention-news/how-to-pitch-an-invention/>

**Evaluation Criteria:**

Categories	Description
Relationship to the SMARTS lectures (25 points)	Clean SMARTS module references <ul style="list-style-type: none"> <li>● How have the master class courses improved your scientific literacy, and how will it affect your future endeavors and way of life?</li> <li>● Describe how the master class courses inspired you to create this submission.</li> <li>● Why did you select the challenge you chose?</li> </ul>



<p>Innovation/creativity (25 points)</p>	<p>Is it unique? How clever is it?</p> <ul style="list-style-type: none"> <li>• Original idea developed by the participant</li> <li>• Approach should be innovative and original and NOT COPIED from a book or other media source</li> </ul>
<p>Technical feasibility (25 points)</p>	<p>Will it even work?</p> <ul style="list-style-type: none"> <li>• Problem stated clearly with a well-defined explanation</li> <li>• Problem appropriately challenges the participant's skills</li> <li>• Makes an attempt to solve the problem stated</li> <li>• Complete description of the technical/thoughtful approach</li> </ul>
<p>Communication of concept (25 points)</p>	<p>How well is the concept developed/presented?</p> <ul style="list-style-type: none"> <li>• Understands the relationship between the project and other approaches to the problem</li> <li>• Cites current resources from various media such as newspapers, magazines, or websites along with science and/or math literature</li> <li>• Ideas given for further research and provide a plan of action</li> <li>• Submissions should be neat, well organized, and show attention to detail</li> </ul>
<p>Extra points</p>	<p>Create a tangible project/product</p> <ul style="list-style-type: none"> <li>• Video presentation (10 points)</li> <li>• Mock-up demonstration (10 points)</li> <li>• Virtual community event (10 points)</li> </ul>

## Structure:

The structure of every research paper is almost identical to an essay but has more sections:

1. Cover/title page including submission title, participant's name, division entry, school name, position title for educators, grade level for students, mailing address, phone number, email address, principal's name, email address, and phone number (place the title in the bottom of your cover page; place it in the heading on every next page). Don't forget to number pages!
2. Outline or table of contents (use this page as your guidelines)
3. Abstract (summary)
4. Introduction (first paragraph with the thesis which constitutes the main idea)
5. Body
6. Conclusion (the last paragraph which restates thesis)



## Submission Criteria:

- Projects should demonstrate an understanding, inspiration, and/or appreciation of Clean SMARTS Master Class courses applications (cyber security, manufacturing, automation, radioisotope production, and technology) as it relates to the project
- Projects can combine theoretical and practical content in a creative way
- Content needs to be as scientifically accurate as possible
- The project should be originally created by identified individual making the submission
- No plagiarism or use of other people's work or presentations as one's own
- No copyrighted material (such as music, images or videos not created by the participant) can be used
- Each participant is only allowed to enter one submission
- Must be in English

Scientific fraud and misconduct are not condoned at any level of research or competition. This includes plagiarism, forgery, use or presentation of other researcher's work as one's own and fabrication of data. Fraudulent projects will fail to qualify for competition.

In addition, by making a submission, participants agree to assign NPI copyright permission to publish the video or digital media presentation on the NPI website, social media, and other platforms and certify that no other rights have been granted which could conflict with the right hereby given to NPI.

Submissions for the Clean SMARTS Master Class Competition should be sent to the following email address: [npi-info@tamu.edu](mailto:npi-info@tamu.edu). The subject line of the email should be: [Clean SMARTS - Division (Student/Educator)] Name, School, School District.

The deadline for submission is **by 11:59pm on April 30, 2021 (CT)**. Submissions made after this date, time, and/or with the wrong subject line will not be considered. Once the submission has been made, there will not be an opportunity to make revisions. If an infringement of copyright is discovered at any stage of the competition, the submission will be immediately disqualified.

## FINALISTS AND THEIR PRESENTATIONS

A panel of judges composed of NPI staff members will review, evaluate, and select winners. These decisions are final. Winners from each division will be contacted by an NPI staff member and highlighted and announced on NPI's website and social media during the virtual Clean SMARTS Master Class Finale on June 4<sup>th</sup> and 5<sup>th</sup>.

**For any questions regarding the competition, please contact [npi-info@tamu.edu](mailto:npi-info@tamu.edu).**