SWENext

Tips on Applying for SWENext Awards

SWENext Awards

SWENexters and SWENext clubs are eligible to apply to the individual and club competitions and awards Applications are typically opened in the late Spring semester and due during the Summer or early Fall semester. Check the monthly newsletters and SWENext website for information about applications and deadlines! See the following link for the official SWENext Awards page:

https://swe.org/k-12-outreach/swenext/swenext-awards/

This guide is full of great tips and tricks that will help you create a polished and professional final video, poster, and/or essay submission! Written by previous award winners, this guide contains many hints into what judges will be looking for in your submission. Throughout the process, make sure you take time to learn new skills and enjoy putting together the content! Best of luck!

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Poster Submissions

Posters are a common way to show data, research, and other forms of information. This document highlights some tips and tricks to help you build a professional and informative poster for your SWENext awards submission.

- ☐ **Analyze the Prompt**

- ☐ **Research, Design, and Solve**

- ☐ **Outline Information and Visuals**

- ☐ **Draw a Skeleton Poster**

- ☐ **Plan Aesthetics**

- ☐ **Use a Digital Resource**

- ☐ **Add Finishing Touches**

- ☐ **Show your enthusiasm for SWENext and positive involvement in SWENext. Have Fun!**

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Poster Submissions

1. Analyze the Prompt

Ask yourself:

- What is the prompt asking me?
- Where can I find background information on this topic?
- What is the problem at hand and what are ways I can solve the problem using the engineering design process?

2. Research, Design, and Solve

Forming an understanding of the problem and potential solutions that are already in place can help you develop your ideas.

- Are there any experts that you can speak to?
- What is the population that is affected by this problem?
- What solutions already exist? What are their strengths and weaknesses? What can your solution bring that is new?

3. Outline Information and Visuals

Put together all of the information and ideas from Step 2 into comprehensive text and figures to create the sections for your poster.

- Written Sections
    - Title, name, problem statement, background information, design discussion, conclusions, references
- Visual Aids
    - Infographics, tables, data plots, pictures, models

4. Create a Skeleton Poster

Before building the final poster, draw out where each piece of content will go using a whiteboard or paper. This will help you plan the flow and spacing of your information.

- What pieces will I be able to include? Where will each part fit?
- Did I include every required section? Is the flow of information easy to see throughout the poster?

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Poster Submissions

5. Plan Out Aesthetics

Taking time to create a cohesive branding system for your poster will help the final product come together.

- Is my color palette simple and professional? Are the contrasting colors easy for everyone to tell apart?
- Are my font styles and spacing consistent for every section?
- Are any background visuals distracting?
- Have I used my space effectively without being overwhelming?
- Is there a constant visual theme throughout my poster?

6. Use a Digital Resource

There are many applications that can be used to create your poster. The most common and easy to use resource is Microsoft PowerPoint. Other applications, like Adobe Illustrator, may offer free trials.

- Check your size
  - What is the required poster size? Have you set parameters in the software to make sure the poster is the proper size?
- Select easy to read fonts
  - Serif fonts, like Times New Roman, are difficult to read on posters. Consider using a sans serif font like Calibri, Arial, or Helvetica to use as a base font.
- Ensure any pictures and graphics are high resolution
  - Graphics may print fuzzy when blown up to poster-size when printed. Any images you may include should be between 105 and 300 dpi.
  - Consider adding a simple border to help pictures and figures have a crisper look.

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Poster Submissions

7. Adding Finishing Touches

There are many small details that are often overlooked when creating posters. Double check your poster before submitting it!
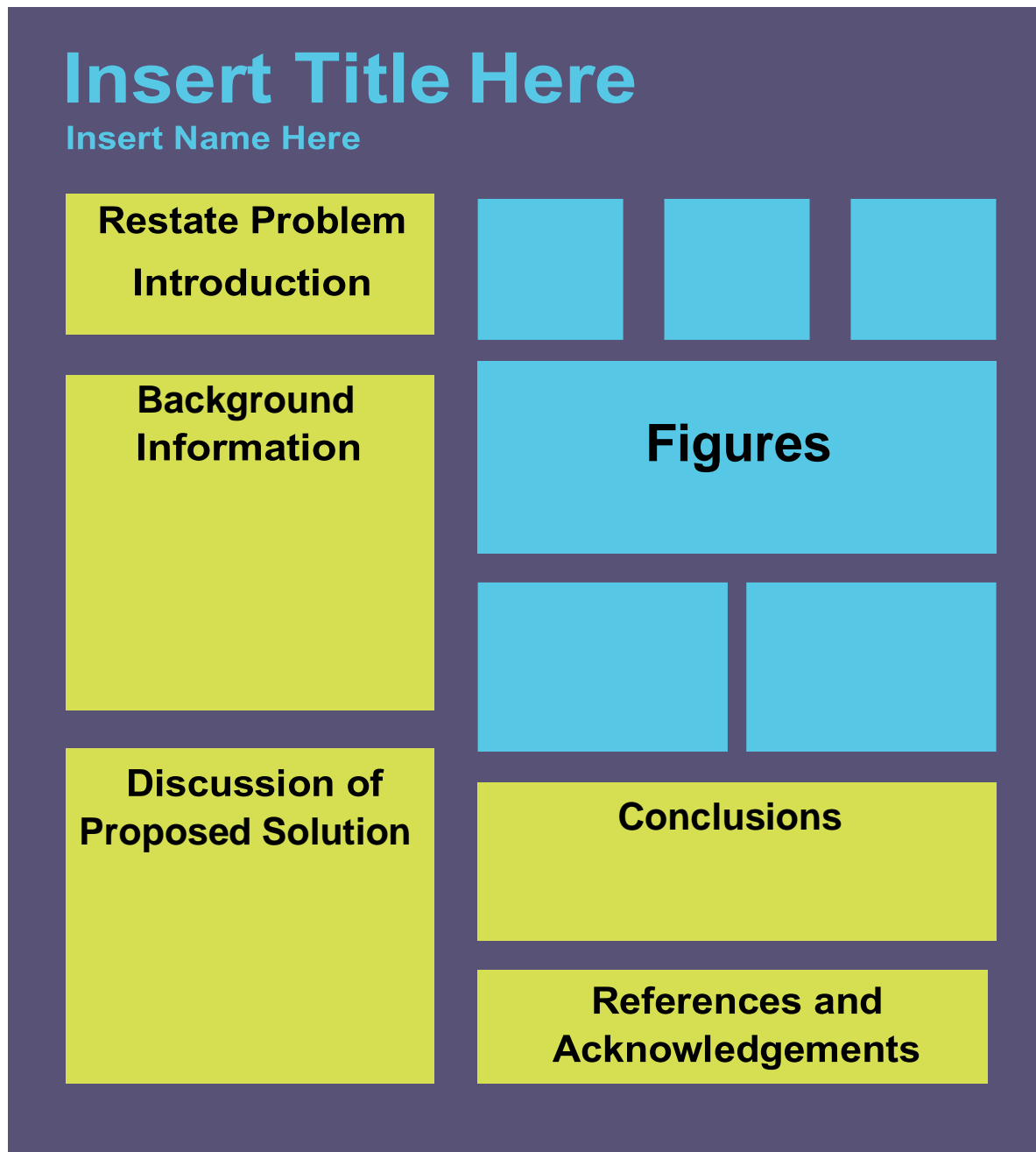
- References and Acknowledgements
  - To avoid plagiarism, make sure to credit any source where you gained information. This also includes any stock photos that you may be using from the internet.
- Labels
  - Written information should include a title above its respective section.
  - Figures should be labelled below and tables should be labelled above.
  - Make sure the poster is labelled with a title and your name.

8. Have Fun!

Posters have many components, and are a valuable skill to learn. There are many hidden ways that you can let your personality be included on the poster while still remaining professional, whether it be through pictures, fonts, or background colors. Throughout the creation process, make sure to have fun and learn new skills along the way!

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Poster Submissions

Here is a basic set-up to organize content for a poster:

Insert Title Here
Insert Name Here

Restate Problem Introduction

Background Information

Figures

Discussion of Proposed Solution

Conclusions

References and Acknowledgements

Notice that there is a clear flow of information throughout the poster. The information follows a line so it is evident to a reader where to look next. Also, the use of white space allows for a delineation between each section. Make sure that each section is given a title, and each figure is labelled.

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Poster Submissions

Creating expressive yet professional posters and infographics is an important skill for communicating information. They can be a fun way to bring a creative side to your hard work and cleanly meld the basics of art and graphic design with data and research. Check out some of these resources if you are interested in learning more!

Data Visualization

Data is all around us, and we must work to show the data in an unbiased but visually stimulating way. Check out these studies on how to avoid creating misleading visuals from your data:

https://infovis.fh-potsdam.de/readings/Cairo2015.pdf

http://hci.usask.ca/uploads/173-pap0297-bateman.pdf

https://www.columnfivemedia.com/25-tips-to-upgrade-your-data-visualization-design

Infographics

From fonts to colors to spacing, infographics and posters have many small details that become important for creating the final product. These articles will help you start recognizing these minute pieces:

https://www.planetary.org/blogs/guest-blogs/design-sci-poster.html
https://www.canva.com/learn/create-infographics/
https://phdposters.com/howto#design_tips

Virtual Skill Classes

Interested in graphic design? Check out websites like Skillshare, Udemy, and Coursera to take free classes on fundamentals! With skills websites, there are often ways to audit the course and watch the video content for free, which is a great way to get a base-level understanding of the material!

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Video Submissions

Creating a video award submission can be stressful, especially if you have not worked with writing a script or software before. This document will highlight a basic outline for ways to build a clear and professional submission!

☐ **Read the prompt carefully**

☐ **Write a Script**

☐ **Practice**

☐ **Find Equipment**

☐ **Prepare a "studio"**

☐ **Record**

☐ **Edit**

☐ **Upload**

☐ **Show your enthusiasm for SWENext and positive involvement in SWENext. Have Fun!**

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Video Submissions

1. Read the Prompt Carefully

Ask yourself:

- What is the video prompt asking me to show?
- What is my time limit?
- How can I efficiently include all of the necessary information?
- What can I show rather than tell?

2. Write a Script

Writing a script is key for focusing your thoughts.

- Start with an introduction!!
- Create a storyboard
    - Collect extra content (pictures, music, etc.)
    - Plan out any body movements, like hand motions
- Read the script out loud as you write
    - This will help you find any awkward phrasing or run along sentences. How we write is not often how we speak!
    - Time your readings

3. Practice

Before recording, read through the script multiple times!

- Record your voice and listen to the playback
    - If reading straight from a script, your voice may be flat. By becoming familiar with speaking patterns, your voice will sound more dynamic and energetic!
    - Be aware of speed. You will have a lot of content, but you want to be sure you speak clearly and coherently!
- Walk through the script in front of a friend, a family member, or a mirror to take a look at your body language when speaking.

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Video Submissions

4. Find Equipment

Low audio/video quality can make videos difficult to understand.

- Some libraries or schools may allow students to borrow equipment. Try to find a camera rather than a phone, and avoid recording from a laptop if possible.
- Create a simple camera setup!
  - When recording, looking straight at the camera allows for better angles, rather than looking down. Whether a tripod or stack of books, align the camera to a good height.
  - Create a setup where the camera/phone will be static in order to reduce shaking, and avoid holding the camera.

5. Prepare a "studio"

Distracting backgrounds can lead to distracting the viewer. Taking the extra time to set up a small recording area can help!

- Location
  - Avoid recording outside. There is often an increase in audio noise and camera glare.
  - Try to find a neutral-colored wall. If recording in your room, avoid showing your bed, and make sure the recording space is decluttered and clean.
  - Feel free to add some personal touches, especially if they are relevant to your script.
  - Try to find a quiet location so your voice will be clear.
- What to Wear
  - Wear something that is comfortable, but professional. This could be anything from a suit to a SWENext club t-shirt!
  - Avoid anything flashy, like any dangling jewelry, as it might become distracting.

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Video Submissions

6. Record

Start the recording process at least a week before the submission is due in order to have time to potentially re-record.

- · Recording multiple times gives you options for what to use as the final product
- · Re-watch a recording to check speed and intonation.
- · Make sure to record in landscape (horizontal) mode

7. Edit

Taking time to edit a video, even minimally, shows that more time, care, and effort were taken to produce the submission.

- · Find a software
  - · iMovie and Windows Movie Maker are free and can provide a good range of options.
  - · Some higher end software (PowerDirector, Adobe Premier) offer 30 day free trials with limited options.
- · Add in pictures or titles
  - · A picture is worth 1000 words. How can you show your excitement and passion for STEM through visuals?

Helpful editing tools:
FREE SOUND EDITORS

Mac/PC
Ocenaudio (Beginner)
https://www.ocenaudio.com/en/startpage
https://www.youtube.com/watch?v=5t5QqBCkAYk

GarageBand (Intermediate)
https://www.apple.com/mac/garageband/
https://www.youtube.com/watch?v=-xT2CoCdpLw

Audacity (Advanced)
https://www.audacityteam.org/
https://www.youtube.com/watch?v=8ClwSNm362E

Chrome/iPhone/iPad

TwistedWave (Beginner)

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https://twistedwave.com/
https://www.youtube.com/watch?v=x7w_fSkFHcw

Mac/PC

iMovie (Beginner)
https://www.videowinsoft.com/imovie-movie-maker-mac.html?gclid=EAIaIQobChMI7c69sdXg7gIVhK6GCh36WwMrEAAYASAAEgKLkPD_BwE
https://www.youtube.com/watch?v=VF2mUJ0P3xU

OpenShot (Intermediate)
https://www.openshot.org/
https://www.youtube.com/watch?v=TeKRsMO_6Rw

Blender (Advanced)
https://www.blender.org/
https://www.youtube.com/watch?v=Ss0ATxE0bNI

Chrome

VideoEditor (Intermediate)
https://chrome.google.com/webstore/detail/video-editor-for-chromebo/okgjbfikepgflmlelgfgecmgjnmnmnnb?hl=en
https://www.youtube.com/watch?v=qeTE1kGnTas

8. Upload

You will have the option to upload a file or a YouTube link. Both of these take time to do, so be sure to allot time for this process!

- Share settings
  - Send the link or file to a friend or parent to see if it can be opened.

9. Have Fun!

Make sure to take time to enjoy the whole video process! Creating a video can be nerve-wracking, but adding personality and energy to the whole process will make for a very fun and exciting video! Show your enthusiasm for SWENext and emphasize your involvement and plans to be more involved in SWENext.

Video Submissions

To help you gain potential ideas and inspiration for your video, here are some previous winners of the Global Innovator Award, which requires a video that speaks toward the application's involvement in leadership, STEM, and her community.

The following are compilations of the winning videos from the 2017-2019 Global Innovator Awards:

2019 Award Winners

https://www.youtube.com/watch?v=RI6RhwpWLNY&list=PLA6R64TT6J_0pEbnGLpSfLz6yrDIYPa1f&index=6

2018 Award Winners

https://www.youtube.com/watch?v=I9pomJNnYWQ

2017 Award Winners

https://www.youtube.com/watch?v=54Nzv-eHD4k

The full videos for the award recipients and honorable mention recipients can be found on the official SWENext YouTube page.

Although creativity and aesthetics are important, make sure to **answer the prompt directly!** Also be sure to **discuss and emphasize your SWENext involvement** throughout your video! For this award, your video's content is more important than your video's style!

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Essay Submissions

SWENext award submissions often include an element of writing through multiple small essays. Being able to pack all the necessary information into such a short essay can become very daunting. Here are some tips and tricks on how to write a clean and informative essay!

1. Analyze the Prompt

The prompts will give you direct information into what the awards rubric will be looking for in your essays. Ask yourself:

- What specifically is the prompt asking me? What must I demonstrate?
- What is the character/word limit?

2. Brainstorm

Crafting short but powerful essays is a skill that starts with first figuring out all the information you would like to add.

- Create an outline of potential talking points. The more examples you can fit into each essay, the better! What are **SPECIFIC** examples that answer each prompt?
- Sometimes topics can fit into multiple prompts, but beware of repetition! How can different pieces fit into each essay?

3. Write Drafts

Write your essays in a word processor first before transferring them to the award submission portal in case the portal accidentally times out.

- Check the word count throughout each draft.
- Write, take a break, edit, repeat! Avoid using unnecessary phrases and run on sentences. With short essays, each word should have a purpose!
- Use multiple, clear examples and **AVOID GENERALITIES.**

4. Check and Submit!

Before you submit, reread the prompt to make sure that your essays answer the prompt **SUCCINCTLY** and **DIRECTLY**. Also check for any errors in grammar and writing comprehension.

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Essay Submissions

Quick Tip!

The more details and examples that you can use in each essay, the more we will be able to see your hard work, your achievements, your leadership, and your personality! Here is an example of an essay from a previous Global Innovator award winner answering one of the four prompts.

Describe your involvement with SWENext. Have you participated in a club, at a SWENext event, a talk, maybe a design challenge, or maybe an online webinar? What steps have you taken to become more involved in the SWE community? (200 words)

After attending WE16 as a FIRST Robotics ambassador, I worked with my school to establish a SWENext section. I recruited twenty members and within three months, we organized SySTEMics, our first annual STEM day, for over 50 middle-school girls in our community. We contacted local universities and organizations to help lead activities, and even had a former NASA engineer give a talk! Our goal is to host two STEM events each year, and we are preparing to host a winter event.

I am constantly trying to help SWENext grow in my community. By participating in a SWENext online webinar this past spring semester, I was able to discuss ideas on how to improve the national SWENext program. After reaching out to the University of New Orleans SWE section, our section talked with their leaders about partnerships for future community events. I have also spoken with a leader of the Greater New Orleans professional SWE section and collegiate SWE members at Tulane University with the intention of creating a network for girls at my school. I am also currently contacting women working locally in STEM fields to come speak at our club meetings for the next year.

Notice that the essay includes several examples, and each example directly answers the prompt. Including details, like names and number values, adds to the credibility and specificity of the examples. The more details, the better!

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Questions? Comments? Concerns?

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