

# Maine STEM Film Challenge Rules

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## Overview

The Maine STEM Film Challenge (MSFC) is a fall competition for elementary through college teams to put together STEM (Science, Technology, Engineering, or Mathematics) based videos on a wide variety of topics that are then reviewed, shared, and judged by professionals within the STEM arena. Shows meeting a minimum level of skill will be displayed at the Southworth Planetarium at the 2022 Maine STEM Film Festival (MSFF).

## Teams

1. Team size may be from 1 to 25 youth.
2. There is no limit on the number of adult mentors, however at least one adult mentor must register and serve as the adult non-team member contact.
3. Grade categories are based on the highest grade of any student on a team
  - a. Grades 5 and under
  - b. Grades 6 to 8
  - c. Grades 9 to 12
  - d. Post high school (currently enrolled at college of any level)

## Mentors and Coaches

- A Coach is responsible for registration of a team; serving as the main contact between the Challenge and the Team; responsible for arranging any payments for registration costs. It is the coaches responsibility to provide or assure all needed intra-team communications as well.
- The MSFC uses the term coach and mentor synonymously. However, some refer to a coach as a person who holds responsibility for a group while a mentor may be someone who comes in with a specific skill set or knowledge to help out.
- Additional coaches or mentors may also assist the team but are not required. A coach/mentor may not be in the age/grade bracket as the team. For example a high school student could mentor a middle school team, but not a high school team.
- All communications will be by email to the listed primary coach. It is the responsibility of the team and coaches to read emails and updates. All such emails will have "Maine STEM Film Challenge" in the subject line for ease of filtering or searching.

## Schedule

- September 2, 2022 Rules release
- TBD & recorded Informational Webinars
- **November 18, 2022** **Final projects due for evaluation**
- November 25, 2022 Projects online for popular evaluation<sup>1</sup>
- November 30, 2022 Judge reviews due for technical evaluation
- December 3, 2022 Planetarium Film Festival, Portland
- December 3, 2022 Award Celebration

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<sup>1</sup> Planned, but may not occur for 2022 season.

## Cost

Teams must register in order to participate in this year's challenge. Team registration expenses help offset the cost of space, material, time, and awards.

As a simple rule, **The number of team members listed in the credits is the determining factor for assessing the fee for your team.** It is also expected that **ALL** members of a team that contributed be included in the credits of the film.

No refunds will be given after submission. If a film fails to meet the minimum requirements, you will be notified, but no refunds will be given.

No film will be reviewed or considered unless all Release Forms; Team Profile Page, film upload, and entry fees are completed.

Fees are **NOT** collected at the time of pre-registration, but at the time of film submission, which is in November. This should reduce the need to guess as to the team size.

Team Size	Cost
1-8 members	\$25/member
9-16 members	\$10/each additional member
17-25 members	\$5/each additional member
Coaches and Mentors	No Charge

### Examples:

#### Team of 1:

Fee would be  $1 \times \$25 = \$25$  (smallest amount any team would pay)

#### Team of 15 students:

Fee would be  $8 \times \$25 + 7 \times \$10 = \$270$

#### Team of 25 students:

Fee would be  $8 \times \$25 + 8 \times \$10 + 9 \times \$5 = \$325$  (highest amount)

All team registrations and payments are preferred to be completed online.

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If a school or larger organization needs to register multiple teams and/or pay with a purchase order, contact our office at (207) 735-3748 or by email. There are no additional bulk rates offered for 2022.

Pre-registration and registration/fees are collected on the Maine Robotics/USM website at:

<https://mainerobotics.coursestorm.com/>

We also encourage you to like our Maine Robotics Facebook page as we post most of our updates there. All pre-registered teams will automatically get the updates.

<https://www.facebook.com/MaineRobotics>

## Your Team

Each team is completely responsible for all aspects of researching and producing your film. Coaches and mentors may teach; may demonstrate; may stand over your shoulder with their hands in their pockets, but they may NOT do the work. That includes directing the film. Coaches and mentors for teams that are formed from younger elementary grades may need to do more of the directing, that would not be unusual.

Teams can come from schools; afterschool programs; community programs; homeschools; families; neighborhoods, etc. It does not matter if you are affiliated with a group or not. A single student with a responsible adult coach can make up a team, as can an entire classroom.

The smallest team is a team of 1 student. The largest team is a team of 25 students. If we hear back from a number of groups that they need larger teams, please contact us and we might be able to add a special category for "large teams". The better strategy would be to make smaller teams.

Can team members be on more than one team?

We are limiting "content and display" team members to one team. So the research, the storyboarding, the discussion, script planning, voice overs, accumulation of video and pictures to embed, and the generation of titles and credits must all be unique for your team.

If your group/organization has a limited number of people who can help with music or technical, it is allowed to share them... But they count as team members against both teams and registration fees apply to the teams for their total number of team members.

## Presentations

The Maine STEM Film Challenge is all about the finished product, although we do care about how you get there as well. Presentation topics must be from some STEM (Science, Technology, Engineering, or Mathematics) field. They can be current or historic. But they must “tell a story” and must be suitable for the general public.

## What makes a show, a show?

### Criteria

There are some things that make a film/video show special. Here is a list of minimum and maximum expectations:

1. Shows must be a minimum of 3 minutes and a maximum of 10 minutes
  - a. No more than 20 seconds may be used for titles at the beginning
  - b. No more than 20% of the total film length may be used for credits at the end (36-120 seconds). Titles and Credits will also be assessed in the overall artistic merit of the film.
2. Shows must be stand alone presentation and be of a video format
  - a. The following formats are acceptable:

i. MP4	iv. FLV
ii. MOV	v. AVI
iii. WMV	vi. WebM
3. All shows will be shared on the Maine STEM Film Challenge Website<sup>2</sup>. The teams maintain the user rights for the production but allow the MSFChallenge to display it as such. The Challenge will also show the videos at the Maine STEM Film Festival in December at the Southworth Planetarium (and other USM venues if needed).
4. All shows must be multi-media based. This requires the use of audio with the video or music with video. If no audio or narration is present, it must include some form to communicate the message of the show.
  - a. There is no limitation in requiring audio for the shows and if groups cannot support audio easily, such as students from the deaf and hard of hearing communities, then prepare your shows accordingly, just let us know that is why the finished work is not sound enabled. When in doubt, reach out.

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<sup>2</sup> Our goal is to share all videos on our website. However, if the number of submissions is great, we may be limited to sharing only the finalists.

- b. Shows are expected to capture the audience and the audience will likely be primarily english speaking hearing-abled audiences. To provide shows that are for a different audience, please make sure that the reviewers understand this. This can be done by mentioning it in the opening credits, during the video, or on the team/film profile page.
  - c. What to aim for in regards to multimedia:
    - i. Video + voice
    - ii. Video + voice + captions
    - iii. Video + captions
    - iv. Video + ASL
    - v. Voice + music (can you make a show without video and have it be engaging? We think that is possible, but challenging)
    - vi. Use of picture in picture with ASL is always acceptable
    - vii. Use of captioning is always acceptable
    - viii. Use of non-english audio with english captioning is acceptable
    - ix. Use of english audio with non-english captioning is acceptable
5. Attributions
- a. Any pictures, music, quotations, and video must be attributed to the proper source. Please ask your local teachers or librarians for help.
  - b. Any pictures, music, quotations, and video that you generate should be credited appropriately at the time of display or in the credits at the end of the show. Students should get credit for their particular property.
    - i. Display of any minor team member's name is NOT required and is left at the discretion of the team, its coaches, and organization. The MSFC encourages name recognition with or without participant pictures as a method to encourage student recognition. Use of first names or nicknames is also acceptable. Full names are required during the registration process.
  - c. Use of any material must be compliant with copyright laws. While classroom use of material to support education is more open to copyright borrowing, this is not the case for public displays of the material.
    - i. NOTE: The MSFC is not responsible for legally addressing whether a show has met all the requirements to be free of copyright claims. However, if there are issues that might result in copyright claims, the team will be asked to provide additional information and the video may be excluded from the USM MSFC and MSFF and if in doubt, cannot be shown at our venue.

## Audio and Music

If you watch planetarium shows or documentaries online, you know that music is often used to highlight the presentation. There are several ways to include free music. Please note, all music, audio, and video must be accounted for, or be your own work.

- Use of free music clips from online libraries (may require signing up)
- Use of paid music clips from online libraries
- Music generated by a student or a staff member/parent from your group<sup>3</sup>.
- Music that you have explicitly received permission to use from copyrighted work. Make sure to mention that in the credits and/or team notes.

## Evaluation

### Criteria

#### **Content: 40%.**

- Is the content relevant to the STEM field?
- Is the content appropriate for the general audience levels found at public shows? Consider the audiences to range from preschool to adult
- Is the content presented in a format that follows from start to finish?
- **Is the content supported by facts, history, data, images or film, quotations, or other supporting material?**

#### **Artistic Delivery: 40%.**

- Is the content delivered in a manner that is not distracting from the content.
  - Transitions; music; consistent volume, resolution, frame rate, color schemes; flicker; framing;
- Does the audio or on-screen supplemental material support the video in a clear and informative or thought provoking manner?
  - Weak, overpowering audio, or widely varying audio levels will result in a lower score.
  - Narration with a non monotonal delivery is important, if possible.

#### **Technical, other: 10%**

- Titles, within time frame and clear.

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<sup>3</sup> This is the only exception for 2022 on allowing an adult to help. It will be re-evaluated for 2023.

- Source citations, required, appropriate, and legal.
  - NOTE: failing to provide citations will result in disqualification automatically.

**Accessible: 10%**

- Does the show try to reach people of all genders?
- Does the show try to be targeted to a particular audience, and if so, how well does the show reach that audience?
- Does the show try to reach persons living with disabilities?
- Does the show allow for automatic translation across languages through the use of subtitles?

## Judging Team

A judging team of professionals and volunteers will assess each entry. Judges will be responsible for each of the four categories listed above but all judges will be able to have input on all categories.

Judging will be completed asynchronously with teams providing their finished video, a team profile, and any notes they wish to share with the MSFC about their work.

The rubrics used for judging will be shared back with teams. We highly recommend that you allow local community members to view your work and use the rubrics to critically evaluate your work. Remember, we can only change what we know doesn't work.

See attached Addendum for "2022 Maine STEM Film Challenge Rubric"

## Proactive Teams

Teams are encouraged to ask questions directly of the MSFC prior to the submission of their video. Questions will be addressed and if appropriate, the answers posted on the website to help other teams. This shall be the challenge's Q & A section on the website and shall be part of the rule set.

No team specific information or topic information will be shared, just technical details needed to clarify topics. For example:

**Q: We made a 10 minute film and added 20 seconds of title and a 1 minute section of credits at the end. Is that okay?**

**A: No, the entirety of the film may not exceed 10 minutes. This video, with the credits and titles would now be 11 minutes and 20 seconds long.**

## Awards

- Best K-5th Grade STEM Film
  - Best 6th-8th Grade STEM Film
  - Best 9th-12th Grade STEM Film
  - Best College STEM Film
  - Most Creatively Presented STEM Film
  - Award for Most Accessible STEM Film
- 
- Additional awards may be warranted if there is a large turnout of teams for the inaugural program. For example:
    - Best use of generated animation for a film

## Topics for your show

### STEM Topics:

- Any **Science** topic (space, biology, physics, chemistry, health, ecology, energy, etc)
- Any **Engineering** topic (electrical, biomedical, mechanical, civil, etc)
- Any **Technology** topic (that fits within the following: tools and practices used within science, mathematics, and engineering)
- Any **Mathematics** topic (algebra, number theory, geometry/topology, data science, etc)
- Any **history** topic about a **STEM topic**

### Unacceptable STEM Topics or methods:

- STEM Topics that **lack a focus**
- STEM Topics that are **not based in fact** or lack critical data to support the topic. Remember opinion does not equal fact.
- Topics presented in detail that are **overly complicated** and not easily understood by the general public, so leave explaining the fourier transforms to another venue. Doesn't mean you can't mention them or show them as a reference, but don't spend minutes walking through them.
- Any show that **lacks sufficient facts** to allow the audience to understand the details of the topic. As a simple example:
  - No: "There are a lot of fish in the ocean" lacks facts
  - Yes: "There are over 20,000 species of fish in the oceans" has a fact.
- Shows that rely on **students who are on the video** most of the time. Occasionally having a team member in a shot is perfectly normal, as is use of a picture in picture to supplement what is being shown.
- **Skits** about the topic
- **Parodies** in general, although a little humor is always fun

## Resources

### Topic Content

- A. Teams are responsible for making their own contacts with regard to their topic content areas.
  1. Check with your **librarians and teachers**
  2. NASA is a great place to go for space related topics
  3. NOAA has a section on weather
  4. The Big History Project has resources on Big History
  5. Many colleges and universities have extensive files and materials available
  6. Check with your **librarians and teachers** (yes, it's listed twice)
- B. Putting together the show.
  1. There are basically "no limits" on the topic you choose, you can do:
    - a) A slide show, with audio narration that has been saved/exported/transformed into a video
      - (1) PPT or similar slide shows that are on auto timing are NOT sufficient, they must be in the **approved file format**.
    - b) YouTube has a lot of videos on how to turn PowerPoints or Google Slides into videos.
    - c) Use of green screens, picture-in-picture videos, or simple audio-over are all acceptable uses of technology.
    - d) Use of video footage that you create or incorporate from creative commons licensed material (attribution required)
    - e) Check with your school district or local technology high school. Many have video programs offered locally or regionally and can be a great resource.
    - f) Check with your local news show to see if they would give you some pointers on putting together compelling video stories.

2. Use of adults and mentors:

- a) It is acceptable to have, for example, a local news team work with the students on the highlights of making a video, but the students must produce the content; do the filming; create, produce, and finish the video. In such an example, remember to give credit to any outside sources that provided assistance.

C. Copyright and attribution issues.

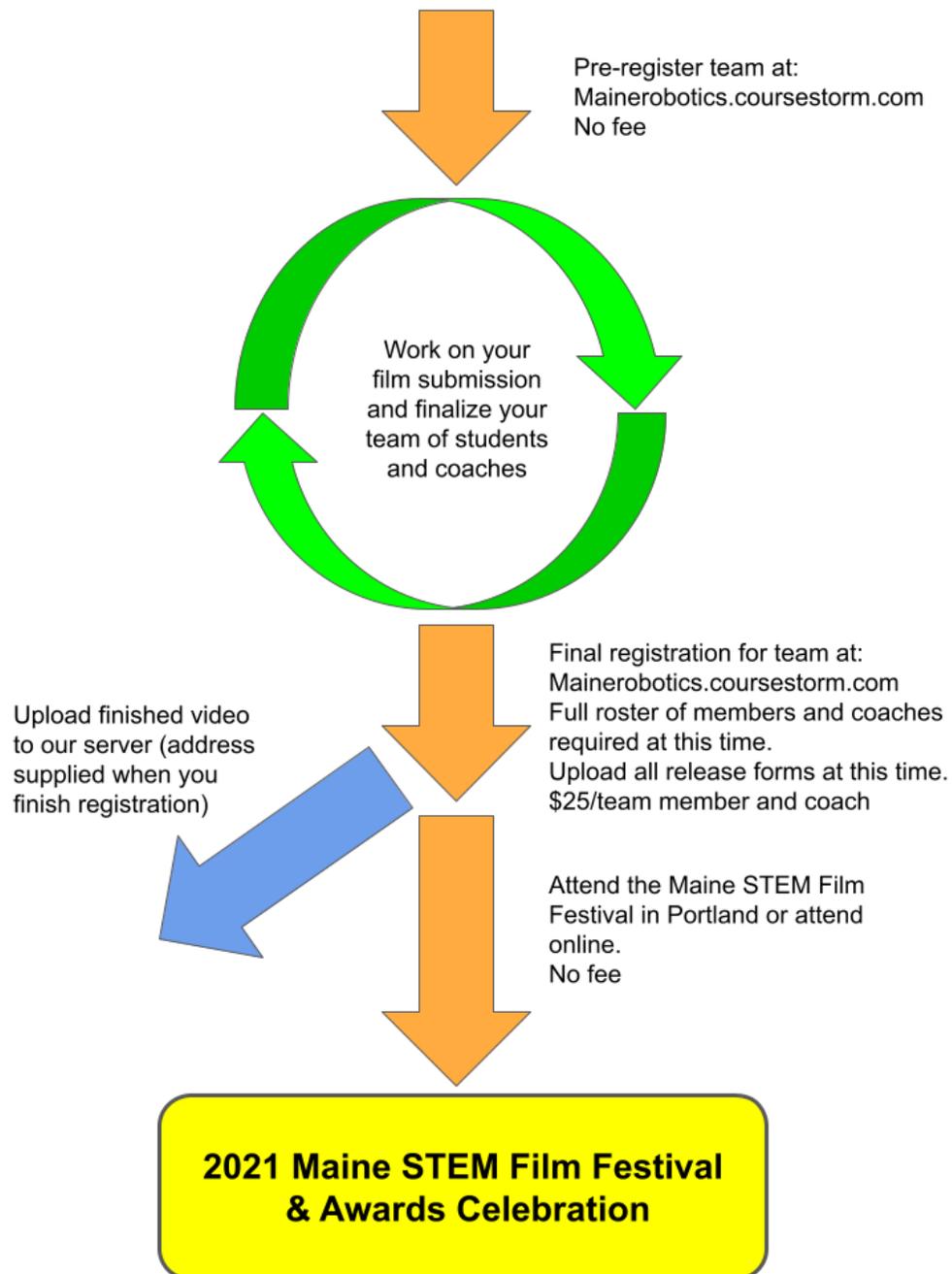
1. Check with your local library or language arts teachers.
2. The Maine STEM Film Challenge will host a webinar on the use of citations and the use of Creative Commons material. The webinar will be recorded and available for reference.
3. Copyright and attribution may be at the end of the video in the credits or it may be included in the onscreen image, for example:



## Team Communication during the season

Any team that is pre-registered or registered will receive all notifications. It is not the MSFCs job to make sure that such communications do not end up in your SPAM folder. We encourage listing additional emails under the additional coach section to make sure you are receiving the notices. We will also be posting to our Maine Robotics Facebook page.

## Season Outline





Maine STEM Film Challenge

STEM Outreach Office

210 John Mitchell Center, Gorham, ME 04038

(207) 735-3748

thomas.bickford@maine.edu

msfc@maine.edu

<https://www.mainerobotics.org/maine-stem-film-challenge.html>

## Appendices:

We will be adding to and updating these appendices as the season gets underway. As this is our pilot year running the Maine STEM Film Challenge, we'll be learning along with the participants.

### Appendix A: Possible Credits to include

How a team sets up their credits is up to them. However, each student that contributes substantially to the final product must be listed. If you want a rule of thumb, any person who spends more than 1 hour working on the final product (at any stage) must be included; even if the team member has dropped off the team.

If you feel you need additional or fewer categories, or want to call them something else, then feel free to do so.

- Students:
  - Research team members
  - Video production members
  - Audio production members
  - Musicians
  - Artists
  - Director
  - Props and materials members
- Coaches and Mentors:
  - Lead coach(es)
  - Assistant coach(es)
  - Snack coach
- Outside Group Mentors or Guests:
  - These are not part of the team, but helped and deserve credit.
  - Examples:
    - Local scientists you interviewed
    - News crew to show/help you with video production
    - Reference Librarian

## Appendix B: 2022 Maine STEM Film Challenge Rubric

Document available for download on 2022 MSFC Website <draft>

Page 1:



### 2022 Maine STEM Film Challenge Rubric

Team: \_\_\_\_\_

Group/school: \_\_\_\_\_

Category: Elem Mid HS Coll

Judge: \_\_\_\_\_

CIRCLE THE APPROPRIATE EVALUATION CRITERIA THAT WAS MET

	1: Did not meet minimum requirements	2: Met some but not all of the requirements	3: Satisfactory	4: Exceeded requirements	5: Excelled
<b>Content</b>	Film was not based on a STEM Field or if based on a STEM field lacked any credible facts. Content stream was not in a coherent pattern.	The topic was appropriate, but the film lacked sufficient facts or details to impart the audience with an understanding of the topic. Content stream was partially in a coherent pattern.	Film was on a suitable topic and included a number of factual details and in a flow that allowed at least a cursory understanding of the topic from watching the film. Content stream was in a coherent pattern from start to finish	Film was on a suitable topic and included numerous and accurate facts. Content stream was in a coherent pattern from start to finish.	Film was on a suitable topic and full of accurate facts presented in a manner that allowed the audience to fully understand the content the filmmakers were trying to present. Content stream was in a coherent pattern from start to finish.
<b>Artistic Delivery</b>	The film was difficult to watch due to a large number of blocky, poor quality or otherwise unimpressive components.	The film was watchable, but a number of flow, color, audio issues resulted in less than suitable presentation of the material.	The film was pleasant to watch and transitions from topic points <u>was</u> done in a manner to support the topic, not detract from it.	The film exceeded the requirements but a few flaws or imperfections were present. Transitions or audio may have been slightly off but not so much to detract from the overall presentation	The film was amazing and highlighted a great deal of skill in coordinating both the video and display components with the audio and music components. Colors and lighting supported each other. No obvious flaws in the delivery.
<b>Technical</b>	Titles were lacking or exceeded the allowable time. Credits were lacking or exceeded the allowable time. Citations were lacking. Film was less than 3 minutes or longer than 10 minutes.				Fully met the technical requirements for this section. Titles were accurate, clear, and within the time frame. Source citations and all other credits were clear and well presented at the end or during the presentation.
<b>Accessible</b>	No effort to address accessibility in any form.		Film included some diversity of people and addressed at least one modality to reach people across abilities, genders, or backgrounds.		Film included people of all types and was presented with an outstanding effort to reach additional audiences through subtitles or other means to break communication barriers.

Page 2:

**2022 Maine STEM Film Challenge Rubric**

Team : \_\_\_\_\_

Group/school: \_\_\_\_\_

Category: Elem Mid HS Coll

Judge: \_\_\_\_\_

**Comments:** (things that were lacking and things that were good)**Score:**

Content Score: \_\_\_\_\_ x 8 = \_\_\_\_\_

Artistic Delivery Score: \_\_\_\_\_ x 8 = \_\_\_\_\_

Technical Score: \_\_\_\_\_ x 2 = \_\_\_\_\_

Accessible Score: \_\_\_\_\_ x 2 = \_\_\_\_\_

**Total Score:** \_\_\_\_\_

## Appendix C: 2022 Maine STEM Film Challenge Team/Film Profile Sheet

Document available for download on 2022 MSFC Website, may be different by November submission time <draft>.

Page 1:

### 2022 Maine STEM Film Challenge Team Profile



<b>Team Name</b>	
<b>Team Organization</b> (List of school or group; homeschool; family; etc)	
<b>Primary Coach/mentor</b>	
<b>Coach email</b>	
<b>Coach phone</b>	
<b>Coach/org address</b>	

<b>Number of team members</b>	
<b>Team members (names)</b> <i>Please write or print as neatly as possible, thanks.</i>	
<b>Additional coaches</b>	
<b>Additional coach emails</b>	

Page 2: Blind Film Description provided to Judging Teams

### 2022 Maine STEM Film Challenge Team Profile



Title of submitted film	
Topic of film	
Length of film (mins and secs)	
File name, including extension	
1-2 sentence introduction to film	
Grade level of oldest team member:	<input type="checkbox"/> k-5 <input type="checkbox"/> 6-8 <input type="checkbox"/> 9-12 <input type="checkbox"/> College

Comments about the film:
Comments about the team (no names or school names):

## Appendix D: 2022 Maine STEM Film Challenge Webinars and Resources

- September 14th, 2022      3:00-4:00 PM      Zoom Meeting  
General introduction to the program and a Q & A session for anyone interested:  
<https://maine.zoom.us/j/82668920579?pwd=TEI3bzR5ZG9yWEtKREt1RnFPVHFvdz09>  
Meeting ID: 826 6892 0579  
Password: 594987
- September 22nd, 2021      4:00-5:00 PM      Zoom Meeting  
General introduction to the program and a Q & A session for anyone interested:  
<https://maine.zoom.us/j/88179692697?pwd=M09jYmtrYUhYK1dkdjJFMmUzNCs5dz09>  
Meeting ID: 881 7969 2697  
Password: 010153
- Using Creative Commons licensed material in your films & Using your attributions in crediting the work.
  - <https://libguides.usm.maine.edu/MEstemfilm>  
For the USM Libraries website on using your material appropriately
- Others to be listed as they are set up.