



2022 Davidson Fellows Scholarship Mathematics Requirements Checklist

Deadline: February 23, 2022, 12:00 p.m. (noon) Pacific Time

The applicant must submit a work in a specific domain area of mathematics. Please select one of the following domain areas:

- Calculus
- Fractals
- Geometry
- Number Theory
- Other - such as Algebra, Applied Mathematics, Analysis, Computer Mathematics, Combinatorics, Graph Theory, Game Theory, Probability and Statistics.

Category Components:

- A formal research report including a works cited page and bibliography.
- A visual model. This model is the visual representation of your research and findings.

Please note:

- The visual model can be as individual as your project. It may be photos, a PowerPoint presentation, graphs, diagrams, illustrations, etc.; your project will dictate how you present your work. We also suggest asking your nominators how to best present your research and findings.
 - The formatting of the works cited page and annotated bibliography should follow the *American Psychological Association Publication Manual* or any other recognized style guide.
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Two Nominators Required

Two individuals who are familiar with your work must each submit a Davidson Fellows Nominating Form. Family members/relatives may not serve as nominators.

Forms must be submitted directly by the nominator to the Davidson Institute on or before the submission deadline of February 23, 2022, 12:00 p.m. (noon) Pacific Time. Both nominators are required. Applications with missing Nominating Forms as of the February 23, 2022 deadline will be disqualified.



Attachments to the Davidson Fellows Application

All attachments are to be completed by the applicant. The word count or length of the attachments is up to the applicant.

Note: Applicants in ALL categories must submit Attachments 1 through 3.

ATTACHMENT ONE: Process Essay

- **Part One:** Please answer the following questions:
 - What inspired you to pursue this work?
 - How much time (hours/days/months) did it take you to complete this work?
 - How did you organize the work that went into doing it?
 - What difficulties did you encounter and how did you handle them?

 - **Part Two:** Please answer the following questions:
 - Where was the work completed?
 - Who supervised your work? (Give names, titles, addresses, e-mail, and phone numbers)
 - What help have you received in doing this work?
 - List who helped you and what assistance he/she provided. (Please include individuals who offered equipment, ideas, critiques, materials, methodology, etc.)

 - **Part Three:** Please tell us how Covid-19 has impacted your work. Be candid! It is important for the judging panel to know how the pandemic shutdown affected your work.
 - Did Covid-related school/lab closures impact your research?
 - Have you been able to go back to school and/or lab? If not, where did/have you continue/d your work?
 - If the pandemic affected your research timeline, where do you think your research would be at this point had there not been a pandemic?
 - Did Covid impact your work in other ways?
 - If you have not been able to access your school/lab/other facilities and are submitting your project as it stood when your research locale was closed, please let us know.
 - Tell us about if or how you worked around Covid-related closures.
 - Is there anything else you'd like us to know?
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❑ **ATTACHMENT TWO: Significance and Benefit to Society Essay**

Please explain why your submission qualifies as a significant piece of work, as defined by at least one of the following criteria:

- exceptional creativity
- a new idea with high impact and/or broad implications
- an innovative solution with regional, state and/or national implications
- an important advancement that can be replicated and built upon
- an interdisciplinary discovery with the potential to effect positive change
- a prodigious performance

Also, please explain how your work may make a positive contribution to society or has social relevance.

❑ **ATTACHMENT THREE: Video Describing Work**

Submit a maximum 10-minute, home-production quality video recording. You are encouraged to speak “from the heart” in your video, rather than reading directly from a script. The video is a chance to talk about a topic not addressed in the essays or to expand upon a point the essays touched on only briefly.

Suggestions for the structure of the video:

- In the first few minutes, you could briefly describe your submission summarizing why it was done, its significance, its benefit to society/social relevance and other details of your accomplishment.
- Continue by describing how you became interested in this project, how it evolved and how working on it has helped you develop your talents.
- Next, describe how your submission fits into the larger context of the field of study and describe the specific ideas/people/theories that influenced your work.
- Conclude your video with a brief description on how you think your work/talent could be applied/highlighted.

Please note there are two submission options for this video. Option one is uploading your video (via any accepted format) to YouTube and uploading the link to the online application. Option two is uploading a .wmv file that is no more than 75MB directly to the online application.*

*YouTube video upload instructions:

- Go to www.YouTube.com
- Either create an account (it’s free) or sign in
- Click “Upload” in the top menu bar and follow the directions [here](#), to make the video **UNLISTED**. (The Unlisted setting insures that your video will only be viewed by the Davidson Fellows Program and its judges, or anyone else you send the URL to.)
- Copy and paste the link to this video as Attachment Three.