

## MAE 3D Printing Design Competition 2021

### FAQ:

#### General

1	What is the design theme?
	The School of Mechanical and Aerospace Engineering (MAE) is celebrating 40 years of commencement in 2021. To celebrate this significant milestone of MAE40, We are seeking a design for a <b>book stand</b> meant to showcase the historical and engineering excellence of MAE.
2	What are the prizes?
	We will select 2 winning designs. The grand prize is S\$2,000. Runner up will receive S\$1,000 cash award.  Winners will be contacted by 01 DEC 2021.
3	Who can participate?
	The competition is open to the current students and alumni of MAE.
4	When is the submission deadline?
	The deadline of this competition is 15 Nov 2021.
5	Do I need to submit the design file?
	Yes. This competition only accepts digital design files and not the 3D printed part. Please save the design file in in STL and STEP format and preferably include the native file-formats of the CAD-software they were made in.  Please ensure that the digital design files are non-identifiable by names or watermarks for judging purpose.  Please see the FAQ on “What should be included in the submission?” for detailed submission requirements.
6	Is there any limitation on the number of submission by the same designer?
	There is no limitation to the number of submission.
7	Is team entry allowed?
	Team entries are welcome. In case of a team wins, prize will be transferred to the team leader who is solely responsible for sharing it among team members.
8	Who owns the intellectual property (IP) of the submission?
	Awarded entry becomes the intellectual property (IP) of NTU. The organizer will own the digital design file and also printed parts using the design files.

9	When will the competition result be announced?
	The winner will be notified via email or phone by 01 DEC 2021.

### Submission of entry

1	Where should I submit my entry?
	<p>Entry submission via email is preferred. Please send the entry package to:</p> <p><u>Ms Aminah</u> , Email : <a href="mailto:maminah@ntu.edu.sg">maminah@ntu.edu.sg</a></p> <p>If your entry package is too large to be sent over via email, please share your entry package via a Google Drive/ NTU One Drive link to the email address above.</p> <ul style="list-style-type: none"> <li>• Please name your submission email with email header: "MAE40 design competition, &lt;your name&gt;"</li> </ul>
2	What should be included in the submission?
	<p>Each submission package will contain the following items:</p> <ul style="list-style-type: none"> <li>• The CAD drawing file of the 3D design ( in DWG, IGS, or STEP, or the native native file-formats of the CAD-software they were made in)</li> <li>• Exported STL file(s) of the 3D design with no error and ready for printing.</li> <li>• Provide one clear rendered image of your design (max file size 10 MB).</li> <li>• A description of your design in less than 250 words. In this write up, you may include images that strengthen your submission ( e.g screenshots, illustrations, drawings)</li> <li>• A pre-recorded video presentation on your design is optional.</li> <li>• Signed Registration Form.</li> <li>• Please ensure that the digital design files are non-identifiable by names or watermarks for judging purpose.</li> </ul>
3	Must the entry reach the organizer before the deadline?
	Yes, please ensure that the entry will reach the organizer by 15 Nov 2021.
4	Will you provide an acknowledgement of receipt?
	Yes, we will send the acknowledgement of receipt via email.

## Judging Criteria

1	Who are the judges?
	Panel of judges include experts in 3D printing, engineering, and design.
2	What are the judging criteria?
	<ul style="list-style-type: none"><li>• The design must be 3D printable.</li><li>• The final object should not measure more than <b>20x20x20 centimetres volume</b>.</li><li>• The final object should be functional as is. It should not require any additional electronics or non 3D printed parts.</li><li>• The judging criteria are Degree of Innovation, Functionality, MAE40 Emotional Content and Aesthetics</li></ul>
3	Is there any limitation on the process?
	The winning entry will be printed using HP Multi Jet Fusion technology. There should not be any additional process being used to fabricate the part. Of course, support structure removal is allowed!
4	What materials will be used to print the book stand?
	HP proprietary powder materials will be used to print the winning design. Participants can find the materials properties of the material via the link below <a href="https://www.hp.com/us-en/printers/3d-printers/materials.html#section=3d-materials-properties">https://www.hp.com/us-en/printers/3d-printers/materials.html#section=3d-materials-properties</a>  A brief design guide of Multi Jet Fusion (MJF) process is also attached in the email for your reference.
5	Who else can I contact if I have further question?
	Please send your questions to <a href="mailto:maminah@ntu.edu.sg">maminah@ntu.edu.sg</a>