



Republic of the Philippines  
**Department of Education**  
REGION III  
SCHOOLS DIVISION OF ANGELES CITY



Advisory No. 034 s. 2024  
April 1, 2024

In compliance with DepEd Order (DO) No. 8 s. 2023,  
This advisory is issued not for endorsement per DO No. 28 s. 2001, but only for the  
information of DepEd Officials, personnel/staff, as well as the concerned public.  
(Visit [www.deped.gov.ph](http://www.deped.gov.ph))

**MACHINE DESIGN SUMMIT 2024: TRADITION MEETS INNOVATION**

Please be informed that the University of the Philippines Gears and Pinions (UP GPs), the premier mechanical engineering student organization of UP Diliman is holding its annual flagship event, the “Machine Design Summit: Tradition Meets Innovation” on April 19-20, 2024 at the Melchor Hall UP Diliman, Quezon City. Attached is the letter of invitation.

For your information and guidance.

Encl.: As stated

MCS/AOV/April 1, 2024



Jesus St., Brgy. Pulungbulu, Angeles City 2009  
[\[045\] 901-9498/angeles.city@deped.gov.ph](mailto:angeles.city@deped.gov.ph)

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## Machine Design Summit 2024 Registration is still open

1 message

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UP Gears and Pinions (UP GPs) <upgps@coe.upd.edu.ph>  
To: angeles.city@deped.gov.ph

Fri, Mar 29, 2024 at 4:49 PM

Greetings! The UP Gears and Pinions is holding its annual flagship event, the **Machine Design Summit 2024: Tradition Meets Innovation** on April 19-20, 2024. In this eighth iteration, the event seeks to bridge a visionary approach of futuristic technological applications with traditional practices in hopes of providing more concrete and evidence-based solutions to the most pressing issues that our world faces today.

Last March 14, 2024, the Department of Education (DepEd) issued an Advisory regarding **MDS 2024**. The document reflects the adherence of the competition to the standards and goals set by the DepEd.

In line with this, we would like to humbly request your assistance in sending invitations to various schools under your good office. We believe that your help in this matter will help us achieve our collective goals of serving the Filipino students of the future.

Attached are pertinent documents that you can disseminate.

Thank you very much!

Warm Regards,

**Simon Lemmuel Acol**  
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**Angel Lopez**  
School Affairs Head  
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[angelalopez152003@gmail.com](mailto:angelalopez152003@gmail.com)

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### 2 attachments

 **UP GPs-Approved-DepEd-Advisory.pdf**  
53K

 **MDS 2024 Primer.pdf**  
22281K

Advisory No. **021**, s. 2024

March 12, 2024

In compliance with DepEd Order (DO) No. 8, s. 2013  
this advisory is issued not for endorsement per DO 28, s. 2001,  
but only for the information of DepEd officials,  
personnel/staff, as well as the concerned public.  
(Visit [www.deped.gov.ph](http://www.deped.gov.ph))

#### MACHINE DESIGN SUMMIT 2024

The University of the Philippines Gears and Pinions (UP GPs), the premier mechanical engineering student organization of UP Diliman, will be hosting its eighth Machine Design Summit (MDS) with the theme, Tradition Meets Innovation, to be held at the Melchor Hall, UP Diliman, Quezon City on April 19–20, 2024.

The MDS 2024 goal is to provide an avenue for learners to innovate and implement machine design concepts with varying objectives contingent on the competition and strengthen their fundamental understanding through the expertise of various professionals.

This year, the MDS theme features a simplistic and humble approach to dealing with the cutting-edge technology of the present. It incorporates the principles of machine design and the relentless pursuit of new knowledge in the field.

Participants from schools and universities nationwide will devise and design machines through digital platforms or present an actual working prototype, depending on the four major events that comprise this summit: 1) Inter-High, 2) Inter-U, 3) 3DR, and 4) Workshop.

Interested participants may sign up until March 27, 2024, through the links below.


Registration Link	Participants
<a href="http://bit.ly/HSRegForm2024">bit.ly/HSRegForm2024</a>	For Inter-High participants: - open to high school students only
<a href="http://bit.ly/UGRegForm2024">bit.ly/UGRegForm2024</a>	For Inter-U and Workshop participants: - open to undergraduate students only
<a href="http://bit.ly/3DRRegForm2024">bit.ly/3DRRegForm2024</a>	For 3DR participants: - open to everyone

Participation of learners and teachers from public and private schools shall be purely voluntary and will not hamper instructional time in compliance with the provisions of DepEd Order (DO) No. 022, s. 2023 titled Implementing Guidelines on the School Calendar and Activities for the School Year 2023–2024 and DO 9, s. 2005 titled Instituting Measures to Increase Engaged Time-on-Task and Ensuring Compliance Therewith and the policy on off-campus activities stated in DO 66, s. 2017.

For more information, please contact:

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School Affairs Co-heads, Machine Design Summit 2024  
UP Gears and Pinions  
Mobile Phone Nos.: 0921-940-1661 and 0956-034-5062  
Email Addresses: [spacol@up.edu.ph](mailto:spacol@up.edu.ph);  
[aalopez7@up.edu.ph](mailto:aalopez7@up.edu.ph); and  
[machinedesignsummit@gmail.com](mailto:machinedesignsummit@gmail.com)  
Facebook Page: <https://www.facebook.com/MachineDesignSummit>



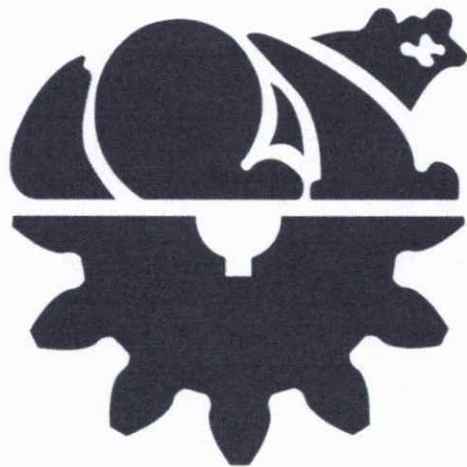
UNIVERSITY OF THE PHILIPPINES  
UP GEARS AND PINIONS 



# MACHINE DESIGN SUMMIT 2024

Tradition Meets Innovation





ABOUT

# UP GEARS AND PINIONS

UP Gears and Pinions (UP GPs) is the **premier organization for mechanical engineering (ME) students in UP Diliman**. Founded in 1955, it was created from a vision to build an organization for a home of mechanical engineering majors to **promote camaraderie and unity among students**, as well as an avenue to **promote academic excellence**. Only the toughest and bravest ME students join this organization, as they embrace the opportunities it provides to showcase their leadership, innovation, and service to all.

Throughout the years, the organization has consistently shown its way of promoting science and technology by conducting activities that go beyond the realm of engineering through events such as **RevUP! The Diliman Motorshow**, a platform for car enthusiasts to showcase their automobiles; and the **Machine Design Summit**, a series of events aimed towards nurturing a deeper understanding of the role of ME in nation-building. These initiatives were strategically crafted to enhance the members' capabilities beyond academic learning, illustrating how the UP GPs cultivate well-rounded individuals who will become versatile engineers in the future.



ABOUT

# MACHINE DESIGN SUMMIT

Machine Design Summit (MDS) is an annual event spearheaded by the UP Gears and Pinions that gathers students from high schools, colleges, and universities across the country to participate in different design challenges. This provides participants with the opportunity to immerse themselves in the field of mechanical engineering through a series of competitions, workshops, and conferences that aims to enhance their skill and knowledge about design and innovation. Four major events comprise this event, namely: (1) **Inter-High**, (2) **Inter-U**, (3) **3DR**, and (4) **Workshop**.

This year's summit, being the **eighth iteration**, will have the theme: **"Tradition Meets Innovation"**, incorporating the principles of machine design and the relentless pursuit of new knowledge in the field. Participants will learn to honor the discipline's foundation and explore its constant evolution. MDS 2024 provides an avenue for learners to innovate and implement machine design concepts with varying objectives contingent on the competition and strengthen their fundamental understanding through the expertise of various professionals.



# MDS 2023 HIGHLIGHTS

Over the years, the goals and objectives of the Machine Design Summit have been consistently achieved through the execution of **four major events**. Below are some highlights from last year's iteration!



## 3DR

- A total of **125 registrants** and **78 Zoom attendees**
- **2.7 K views** on Facebook livestream



## INTER-HIGH

- **14 participating teams** from various high schools in the Philippines
- Proposal of a **more sustainable design** of our traditional jeepneys



# MDS 2023 HIGHLIGHTS

## WORKSHOP

- **14 student attendees** from various universities
- Partnered with **UP Competitive Robotics Club**
- Discussed **basic Arduino programming**, motor driver controls, and input sensors



## INTER-U

- **8 participating teams** from **5 distinguished universities**
- Creation of **mousetrap cars** using common household items





# TIMELINE OF EVENTS

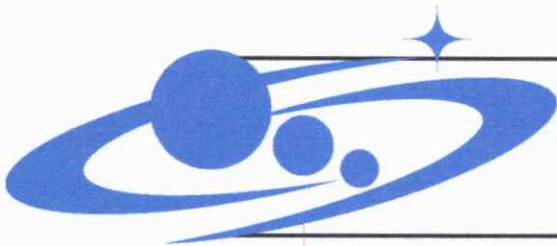
**MARCH 1 - 27, 2024**

General Registration Period



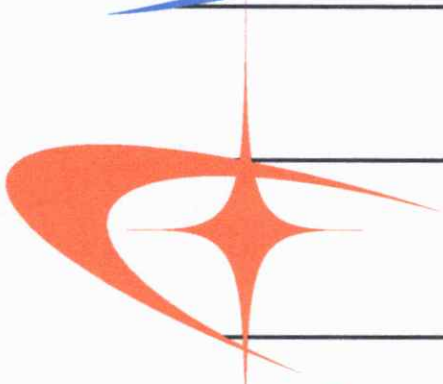
**APRIL 6, 2024**

Inter-High (Pre-finals deadline)



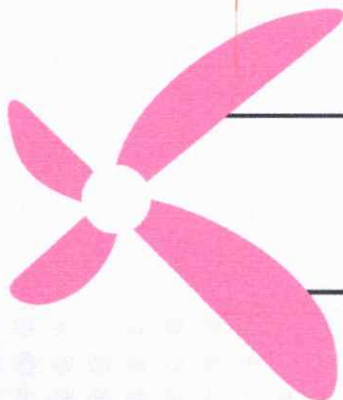
**APRIL 19, 2024**

3DR



**APRIL 19, 2024**

Workshop



**APRIL 20, 2024**

Inter-U & Inter-High (Finals)

# GENERAL GUIDELINES

## REGISTRATION FORMS

Participants who wish to participate may sign up  
from **March 01 until March 27, 2024** through the links below:

INTER-HIGH

[bit.ly/HSRegForm2024](https://bit.ly/HSRegForm2024)

open to high school students only

INTER-U

WORKSHOP

[bit.ly/UGRegForm2024](https://bit.ly/UGRegForm2024)

open to undergraduate students only

3DR

[bit.ly/3DRRegForm2024](https://bit.ly/3DRRegForm2024)

open to everyone



# REGISTRATION FEE

Choose a registration package to avail,  
and **pay the amount** through one of the payment channels.  
The early bird promo runs from March 1 to March 13.

PACKAGE	REGULAR RATE	EARLY BIRD RATE
<b>Package A:</b> Inter-High	<b>₱550</b> per team	<b>₱500</b> per team
<b>Package B:</b> Inter-U	<b>₱750</b> per team	<b>₱700</b> per team
<b>Package C:</b> Workshop	<b>₱150</b> per person	<b>₱150</b> per person
<b>Package D:</b> Inter-U + Workshop	<b>₱950</b> per team of 3-5 members	<b>₱900</b> per team of 3-5 members
<b>3DR is FREE and open to all!</b>		

## PAYMENT CHANNELS

### LANDBANK

Account Holder: Janlloyd Villareal  
Account Number: 1896424315

### BPI

Account Holder: Janlloyd Villareal  
Account Number: 0919355557

### PAYPAL

Account Holder: Janlloyd Villareal  
Account Link: [paypal.me/janlloydv](https://paypal.me/janlloydv)

### GCASH

Account Holder: Janlloyd Villareal  
Account Number: 0969 373 7152

### REMINDER:

**Upload the proof of payment in the registration form.**

You will not be eligible for any of the packages  
without the proof of payment.

## PARTICIPANT LIMIT

Each event can only accommodate a specific number of teams or participants on a **first-come, first-served basis**, as detailed below:

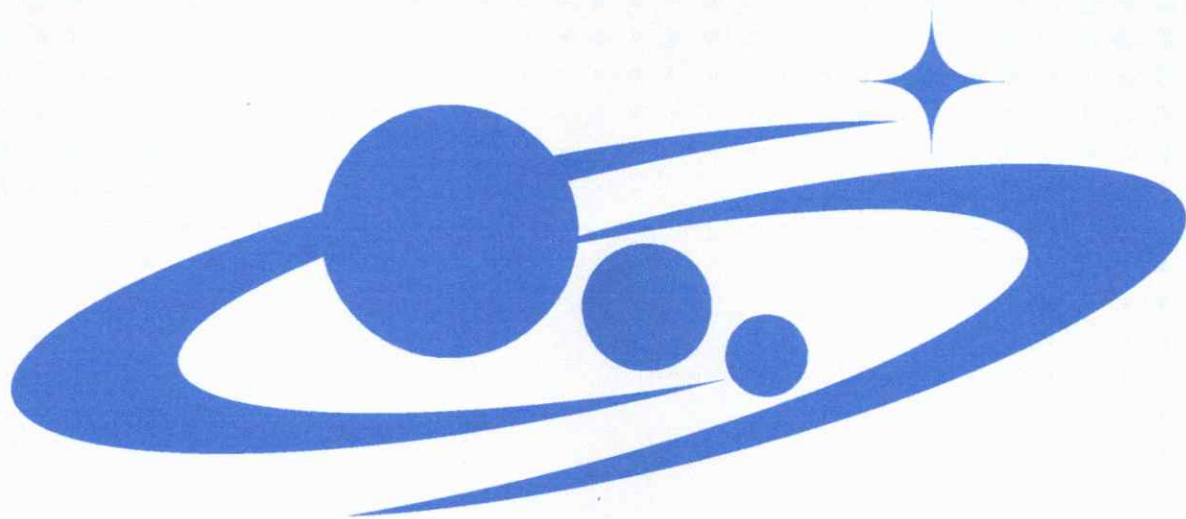
EVENT	MAXIMUM
Inter-High	No Limit
Inter-U	10 teams
Workshop	40 participants
3DR	95 participants

## CONFIRMATION OF REGISTRATION

Registrants will only be considered as official participants of MDS 2024 once their registration is confirmed. An email will be sent with a week after filling out the form.

Specific event guidelines will be sent to the participants or team representatives through their provided email addresses.





**3DR**

**THREE DISCUSSIONS  
ON RESEARCH, RECREATION,  
AND REAL LIFE**

The Three Discussions on Research, Recreation, and Real Life (3DR) is a series of live talks from esteemed guests in the academe, engineering industry, public service, and other equally admirable ventures.

This sub-event is open to anyone interested.

# EVENT TIMELINE

**WHEN**

**April 19, 2024**  
**9:00 a.m. to 12:00 p.m.**

**WHERE**

**UP Diliman, Quezon City**

TIME	ACTIVITY
9:00 a.m.–9:15 a.m.	Ingress Introduction for Speaker 1
<b>9:15 a.m.–9:45 a.m.</b>	<b>Speaker 1 - Talk</b>
9:45 a.m.–10:00 a.m.	Q and A and Awarding of Certificate for Speaker 1
10:00 a.m.–10:05 a.m.	Introduction for Speaker 2
<b>10:05 a.m.–10:35 a.m.</b>	<b>Speaker 2 - Talk</b>
10:35 a.m.–10:50 a.m.	Q and A and Awarding of Certificate for Speaker 2
10:50 a.m.–10:55 a.m.	Introduction for Speaker 3
<b>10:55 a.m.–11:25 a.m.</b>	<b>Speaker 3 - Talk</b>
11:25 a.m.–11:45 a.m.	Q and A and Awarding of Certificate for Speaker 3
11:45 a.m.–12:00 p.m.	Closing Remarks Picture Taking Egress





# WORKSHOP

## BUILD, GENERATE, AND INNOVATE: A WORKSHOP ON SIMPLE POWER GENERATION

This workshop is designed to provide participants with essential knowledge and hands-on skills in simple power generation. Throughout the event, participants will be able to engage in insightful discussions and participate in constructing various simple generators.

# EVENT TIMELINE

**WHEN**

**April 19, 2024**  
**1:00 p.m. to 5:00 p.m.**

**WHERE**

**UP Diliman, Quezon City**

TIME	ACTIVITY
1:00 p.m.–1:10 p.m.	Opening Remarks
1:10 p.m.–2:40 p.m.	Lecture
2:40 p.m.–4:30 p.m.	Hands-on Activity
4:30 p.m.–4:50 p.m.	Presentation of Designs
4:50 p.m.–5:00 p.m.	Closing Remarks





# INTER-HIGH

## BEYOND LIMITS: REVOLUTIONIZING THE TRADITIONAL WHEELCHAIR

The Inter-High is a competition that gives high school students the opportunity to showcase both their creativity and knowledge in machine design in **innovating the traditional wheelchair**.

The task is to transform the traditional wheelchair such that the user's mobility is improved and aids them in performing supposedly "impossible" everyday tasks independently.

# MECHANICS

## TEAM COMPOSITION

- Each school can have a maximum of two teams, with each team **composed of three to five members**.
- Teams can either be composed of Junior High School students, Senior High School Students, or both.

## PRE-FINALS

- The output will be an idea primer, consisting of an infographic presenting the design, as well as a 3D file or sketch of the design itself. The participants may opt to include a QR code should they choose to present an audio-visual presentation for their design.
- Submissions will **end on April 6, 2024, at 12:00 noon**. These will be judged accordingly by a panel of judges once the idea primers have been submitted.
- The **top 6 finalists** will be announced through the Machine Design Summit Facebook page on **April 10, 2024**.

## FINALS

- The finalists will be receiving feedback for their initial output. These teams will be given eight days (may be subject to change) to revise and finalize their outputs for their presentation.
- The qualified finalists will submit their final outputs on or before **April 18, 2024, 11:59 PM** to the UP GPs email: [machinedesignsummit@gmail.com](mailto:machinedesignsummit@gmail.com) and present their solutions to a panel of judges on April 20, 2024, face-to-face in UP Diliman.
- The presentations of the Top 6 will be held from **8:00 a.m. to 11:35 a.m.**
- Each team will be given a maximum of **15 minutes** to present their solutions, with deductions incurred for exceeding the time limit.
- All members of the team **MUST** be present during the presentation. If there are any concerns regarding your presentation schedule, please email us at [machinedesignsummit@gmail.com](mailto:machinedesignsummit@gmail.com) as soon as possible.
- After the presentation, the judges may ask questions and probe the solutions presented by the finalists. Finalists are expected to defend their ideas accordingly.
- The top 3 winners will be announced **on the same day** at the MDS Culmination.



## CRITERIA FOR JUDGING

The participants' outputs shall be judged based on the following sets of criteria:

PRE-FINALS CRITERIA	
Problem Statement	10%
Overall Design	30%
Visual Appeal	15%
Content	20%
3D Model/Sketch	25%

FINALS CRITERIA	
Socials Impact	10%
Pitch Presentation	20%
Design Specifications	35%
Feasibility and Viability	35%

## PRIZES

The top three teams will receive the following cash prizes, along with a certificate with the name of the team members:

**₱7500**

FIRST PLACE

**₱5000**

SECOND PLACE

**₱2500**

THIRD PLACE



# INTER-U

## WINDNOVATION: REDEFINING SUSTAINABLE TURBINE POWER

The Inter-University competition embraces the fusion of tradition and innovation as it provides a thrilling journey to university students in **designing and constructing a miniature wind energy turbine system** using only recyclable materials!

The mission is **to harness the power of the wind to illuminate lights and create captivating sounds**, transforming a miniature establishment, whether it's a cozy cottage, a bustling farm, or an imaginative setting of sorts.



# MECHANICS

## TEAM COMPOSITION

- Any undergraduate student is eligible to join the competition.
- Each team must consist of **three to five students**.
- Teams are required to have one adviser, but the adviser is not allowed to participate in the hands-on development of the prototype or provide direct assistance with technical aspects.
- All participants, including team members and advisers, must complete the pre-registration process before the event.
- Failure to attend without prior notification will result in automatic disqualification.

## POWER PEAK

- "Power Peak" sets the stage for the competition by focusing on the heart of wind turbine performance—the **total power generated**.
- Teams aim to achieve the highest voltage reading, showcasing their ability to convert wind energy into usable electrical power.
- This segment sets the tone for the competition by challenging teams to showcase their understanding of wind energy conversion into electrical power. This emphasizes the importance of efficiency and innovation in designing effective wind turbine systems.

## GLOW & GO

- Get ready to witness the illuminating power of wind turbines in this electrifying segment of the competition!
- In this challenge, teams will put their wind turbine designs to the ultimate test, demonstrating their ability to harness the power of the wind to illuminate a series of LED lights, activate various sound components, and power other electrical devices.
- The team that successfully powers up the most electrical components within the allotted time will be given the highest points.

## CRITERIA FOR JUDGING

The participants' outputs shall be judged based on the following sets of criteria:

POWER PEAK - Voltage Measurement (70%)	
Efficiency of Turbine	35%
Innovation and Creativity of Turbine Design	35%

GLOW & GO - Creative Power Showcase (30%)	
Functionality of Electrical Components	25%
Design and Aesthetics of Fixtures	5%

The final winners will be determined by evaluating the teams' performances in both segments.

## PRIZES

All participants will be given certificates for attending the event. The top three teams, however, will be receiving the following cash prizes, along with certificates:

**₱7500**

FIRST PLACE

**₱5000**

SECOND PLACE

**₱2500**

THIRD PLACE



# CONTACT US

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