Explain It! – The Engineering Vertical Video Competition

The *Explain It!* competition challenges engineering students to make complex technical ideas accessible and engaging for non-engineers. In a world increasingly shaped by engineering decisions, the ability to explain how things work—*and why they matter*—is essential to building public trust and understanding. Students will create a **vertical short-form video** that explains an engineering concept clearly, accurately, and memorably for a general audience. Think of it as a blend between an elevator pitch and a 60-second science communication story: concise, visually engaging, and audience-centered.

Submission Guidelines

- **Format:** Vertical video (9:16 aspect ratio)
- **Length:** Maximum 60 seconds
- **Eligibility:** Open to all Woodruff engineering undergraduates.
- **Topic:** Any engineering concept, principle, or device that can be explained in clear, accessible language.
- **Tone:** Conversational, confident, and audience-focused—aimed at viewers with no formal technical training. Think MrBeast meets Hank Green: energetic, engaging, and crystal-clear.
- **Visuals:** Students are encouraged to use props, demonstrations, animation, or creative visuals that enhance understanding.
- **Appearance:** The presenter must appear on camera for at least part of the video to establish connection and credibility.

Evaluation and Awards

Finalists will be invited to showcase their videos during the **2026 Webb-Donnell Communication Competitions**, where winners will be recognized for outstanding communication skill and creativity. Selected videos may also be featured on the Woodruff School's website and social media channels to highlight the role of engineers as public communicators.

Use of AI and Presentation Modes

To recognize the diverse communication strengths of engineering students, the *Explain It!* competition allows flexibility in how competitors design and deliver their videos. Students may choose the presentation mode that best supports their message and comfort level while maintaining authenticity and ethical standards.

Competitors may select one of the following modes:

1. **Presenter Mode**
   The competitor appears on camera as the explainer. Visual aids, props, sketches, or on-screen graphics may be used to clarify or emphasize key ideas.
   - The speaker's **face and voice** must appear in the final video.
   - All narration and editing must be original to the student.
2. **Designer Mode**
   The competitor may use generative AI tools—such as **Sora, Runway, Pika, D-ID**, or similar platforms—to create animations or scenes that visualize their explanation.
   - The narration, concept selection, and script must be entirely student-created.
   - The student's **own likeness and voice** must be used. Videos that depict or clone another person's appearance, identity, or voice are **not permitted**.

All entries that incorporate AI tools must include a brief disclosure statement in their submission form. Example:

> "I used Sora to generate the animation of fluid flow. The narration, likeness, and voice are my own."

Example Topics

Mechanical / Structural

- "Did you know the exact angle of the Campanile's supports makes it resistant to wind gusts up to 100 mph? It's all about *triangulation* and *load distribution*."
- "You could use *center of gravity* calculations to figure out how to stack your club's tent so it doesn't blow away on Tech Green."
- "The reason that the stairs in the MRDC vibrate when people when in heavy use? That's *resonance*, and engineers actually design for it, not against it."

Thermal / Energy

- "If you ever wondered why the library's glass façade doesn't turn it into a greenhouse—engineers model *heat transfer* to balance natural light and cooling costs."
- "That shade structure outside the Kendeda Building? It's an example of *passive cooling*—reducing radiant heat load without using any electricity."
- "You can use *thermal diffusivity* to predict how fast a cold brew coffee will warm up on a hot Atlanta afternoon."

Fluids / Airflow

- "If your organization wants to hang a banner outside the CULC, you can use *drag coefficients* to figure out whether it'll flap wildly or stay readable in the wind."
- "Those little metal stilts on top of the library? They're for *aerodynamic vortex shedding control*—reducing vibration from the wind."
- "The fountain's water arcs are shaped by *Bernoulli's principle*—the faster the fluid moves, the lower the pressure, which controls how high it sprays."

Electrical / Systems

- "You can use *Ohm's Law* to model how long your phone battery lasts based on the brightness setting—it's literally about balancing voltage and resistance."
- "Those smart trash cans at ATL use *control systems*—a feedback loop that automatically signals when the bin's full."
- "The buzzcard readers all over campus? They use *inductive coupling*—the same principle behind wireless charging."

Data / Optimization

- "If you wanted to find the *perfect spot* for your club booth, you could use *optimization algorithms*—model foot traffic, noise, and visibility as variables."
- "You can use *Monte Carlo simulation* to predict how likely you are to get a good parking spot at different times of day."
- "The bus routes are optimized using *graph theory*—it's like a network of nodes and edges designed to minimize wait times."

Human-Centered / Safety

- "Crosswalk signal timing is an *ergonomic* calculation—it's based on an assumed average walking speed of 3.5 feet per second."
- "The steps up to the Love Building are designed with *human factors* in mind—run-to-rise ratios that fit average stride length."
- "The reason lab goggles fog less than glasses? Engineers designed *anti-fog coatings* that manipulate surface tension to spread condensation evenly."

Rubric – Explain It! Engineering Concept Video Competition (Draft)

Criteria	1 – Poor	2 – Fair	3 – Good	4 – Very Good	5 – Excellent	Score
Accessibility for a Non-Engineer	Explanation is overly technical or confusing; little awareness of public audience.	Simplified but still jargon-heavy or assumes prior knowledge.	Generally accessible; occasional moments of complexity without support.	Clear, audience-aware, mostly avoids jargon or explains it well.	Highly accessible and inviting — someone with no engineering background can easily follow and stay interested.	___
Clarity & Structure of Explanation	No clear throughline; ideas feel scattered.	Some attempt at structure but transitions are rough; concept understanding is uneven.	Clear overall explanation with minor organizational gaps.	Smooth, logical flow with strong scaffolding and transitions.	Exceptionally well-structured — seamless, intuitive, and easy to follow from start to finish.	___
Interest & Idea Framing	Topic feels random, unmotivated, or poorly chosen for a general audience. The video never establishes relevance, curiosity, or stakes.	Topic has potential but is introduced in a flat or unclear way. Relevance is mentioned but not connected meaningfully to everyday experience.	Topic is reasonably interesting. Relevance is explained at a surface level but may not feel compelling.	Relevance is clear and well-integrated — viewers understand why this concept matters. *"This is a cool angle — I'm interested and want to keep listening."*	Topic is compelling, surprising, or instantly attention-grabbing for a general audience. *"This is fascinating. I'm going to remember this — and probably tell someone else."*	
Engagement & Delivery	Low energy; monotone or static visuals; difficult to stay engaged.	Moments of interest but lacks pacing, hook, or energy.	Engaging at points; reasonable pacing and presence.	Strong audience pull — good pacing, confident delivery, visually dynamic.	Captivating and memorable — "I want to keep watching." Tone is energetic and clear.	___
Visualization / Analogy Design*(applies to both live action & AI-assisted)*	Visuals or analogies are absent, confusing, or detract from meaning.	Attempts made but unclear, distracting, or literal instead of explanatory.	Visuals/analogies support understanding moderately well.	Strong explanatory aids — props, sketches, demos, or animation serve the message.	Visualization/analogy dramatically improves comprehension — clever, intuitive, and enhances retention.	___
Ethical & Authentic Presentation (Voice + Likeness Required)	Uses someone else's voice or likeness; lacks ownership.	Appears to rely heavily on AI in place of personal explanation.	Student voice and likeness present but AI integration is uneven.	Responsible use of visuals or AI enhances message; disclosure provided.	Student voice, likeness, and creative choices feel unmistakably original — AI, if used, is transparent and purposeful.	___

Total Score: _____ / 25

Are you an engineer? Y/N -> if yes
Accuracy Check:

☐ No issues — the engineering information is correct in substance and framing.
☐ Minor inaccuracy — does not meaningfully alter understanding.
☐ Moderate inaccuracy — judges should be aware.
☐ Significant inaccuracy — student must be notified; may require disqualification or revision.