✅ Workshop Schedule (A half day)

13:00 – 13:45 | AI Essentials for Teachers

- Introduction to the goals and structure of the workshop
- Understanding AI basics and history
- The current state of AI in education worldwide
- AI tools and services

13:45 – 14:30 | Practice 1: Let's be students: solving assignments

- Purpose:
  - Explore the AI tools students can use and discover what they can do with AI.
- How to carry out:
  - Each participant will be shared with homework examples by subject or their own assignments(?) and practice solving them using AI tools.

🔷 Break Time (14:30–14:50)

14:50 – 15:50 | Practice 2: Evaluate the assignments and design a new assignment for future classes.

- Purpose:
  - Understand the challenges of identifying an AI-generated assignment and of evaluating student assignments.
  - Explore the AI tools available to teachers and discover their potential in education.
- How to carry out:
  - Each participant will use AI tools to grade Practice 1 assignments from their peers.
  - Each participant will design a new assignment intended for use in their future classes.

15:50–16:30 | Sharing session: Ideas for future homework creation.

- Each participant will present the assignment they designed and explain why it is a well-designed task.

Practice 1
Let's be students solving assignments

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Practice 1: Let's be students solving assignments

❑   Please, be pair so you can help each other …

	A	B
G1	Andrea CSENDOM (Education)	Chika HOSODA (Education)
G2	Naoko FUKURA (Education)	Lisa NAKAHARA (Int. education)
G3	Yoko ABE (Int. communication)	Kuy Howard (Int. policy)
G4	Mamiko YAMASHITA (Economics)	Saori OBATASHI (Operational behavior)
G5	Ryusei OKETANI (Chemistry)	Asato MIZONO (Chemistry)
G6	Soichiro KAWAMORITA (Organic Chemistry)	Yajuan ZHENG (Physics)

Practice 1: simple questions

1) Which of the following is not recommended for English-language learners?

   A. Storybooks
   B. Newspapers
   C. The Internet
   D. Textbooks

2) What is the main purpose of active listening?

   A. To make the speaker feel valued
   B. To help the listener expand their knowledge
   C. To minimize communication errors
   D. To enhance classroom management

3) Which of the following activities is likely to be uncomfortable for a student from a high-context culture?

   A. Group discussions
   B. Cooperative learning tasks
   C. Formal debates
   D. Nonverbal communication

Problem 7. For a given positive real number r and real x, y let $N_r(x, y)$ be the number of pairs of integers (m, n) satisfying $(x - m)^2 + (y - n)^2 \leq r^2$. Evaluate

$$\int_0^1 \int_0^1 N_r(x, y) \, dx \, dy$$

as a function of r.

Problem 4. In a magical isosceles triangle $\triangle ABC$ we have $|AC| = |BC|$. Let D be the midpoint between A and B. The inscribed circle of ABC intersects the line segment CD in a point E that is in the interior of the triangle. Suppose that $|AB| = 15$ and $|CE| = 8$. Determine $|AC|$.
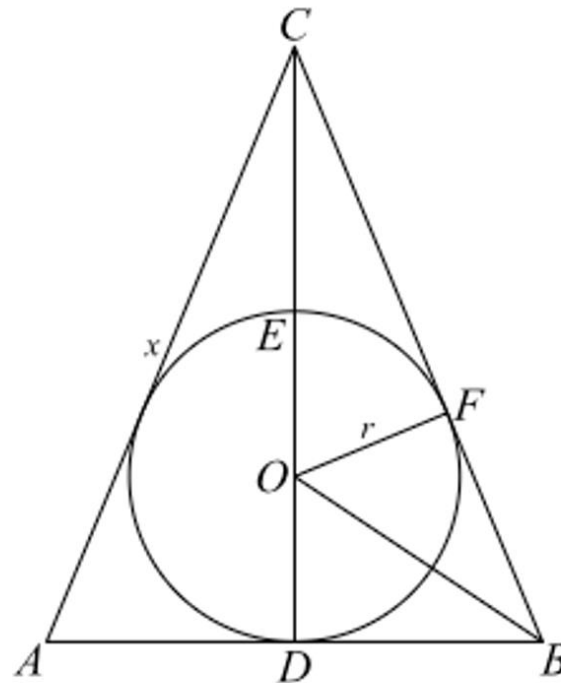
Paragraph for Question Nos. 16 to 18

The Doppler flow meter is a particularly interesting medical application of the Doppler effect. This device measures the speed of blood flow, using transmitting and receiving elements that are placed directly on the skin, as in Figure. The transmitter emits a continuous sound whose frequency is typically about 5 MHz. When the sound is reflected from the red blood cells, its frequency is changed in a kind of Doppler effect because the cells are moving with the same velocity as the blood. The receiving element detects the reflected sound, and an electronic counter measures its frequency, which is Doppler-shifted relative to the transmitter frequency. From the change in frequency the speed of the blood flow can be determined. Typically, the change in frequency is around 600 Hz for flow speeds of about 0.1 m/s.
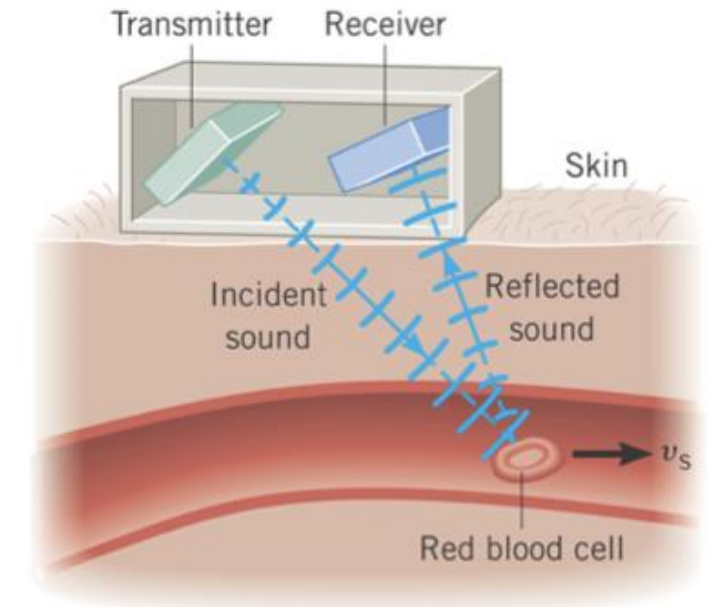
16. Assume that the red blood cell is directly moving away from the source and the receiver. What is the (approx) speed of the sound wave in the blood?

    (A) 1700 m/s   (B) 330 m/s   (C) 5000 m/s   (D) 3000 m/s

17. An abnormal segment of the artery is narrowed down by an arteriosclerotic plaque to one-fourth the normal cross-sectional area. What will be the change in frequency due to reflection from the red blood cell in that region?

    (A) 150 Hz   (B) 300 Hz   (C) 600 Hz   (D) 2400 Hz

18. At what extra rate does the heart have to work due to this narrowing down of the artery? Assume the density to be 1.5 gm/cc and the area of the normal artery to be 0.1 cm².

    (A) 1.125×10^{-4} W   (B) 2.5×10^{-4} W   (C) 6.25×10^{-5} W   (D) 5.625×10^{5} W

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53. A collection of H-like atoms has some atoms in the lowest energy level 'A' and some atoms in a particular upper energy level 'B' and there are no atoms in any other energy level. The atoms of gas make transition to a higher energy level by absorbing mono chromatic light of photon of energy 2.55 eV. Subsequent the atoms emit radaition of six different wavelengths. Some of the emitted photons have energy 2.55 eV and some have more and some have less than 2.55 eV.

(i)   Find the quantum number of initially excited level.

(ii) Find the atomic number of gas.

(iii) Find the ionisation energy for the gas atoms.

(iv) Find the maximum and minimum energies of the emitted photons.

Title: **The Impact of AI on Modern Education Systems**.

Write an essay of about 400 words (approximately one A4 page) discussing how artificial intelligence is influencing education today.

❑ GPTs (ChatGPT) or Gems (Gemini)

➢ They are a tool that enables you to create customized AI services – for example writing or translating – each working different contexts.

➢ If you want an AI which behaves like you, this is it.

➢ If you have a ChatGPT subscription, open ChatGPT. If not, open Gemini.

https://suyongeum.github.io/shared/gpts-instructions.txt

❑ Assignment1

https://suyongeum.github.io/shared/example2/sample1.pdf

❑ Assignment2

https://suyongeum.github.io/shared/example2/sample2.pdf

❖ The lecture notes contain questions that require reading and understanding the material to answer.

❑ But does it really matter what I talk about this morning? Because, as we all know, most addresses are soon forgotten. As Abraham Lincoln said in his Gettysburg Address, "You will little note nor long remember what I say here." And yes, Lincoln was right. No one remembers the Gettysburg Address. So, too, will my words likely be forgotten.

https://youtu.be/LgYUrVUco9k

6:25 ~ 7: 45

❑ But does it really matter what I talk about this morning? Because, as we all know, most addresses are soon forgotten. As Abraham Lincoln said in his Gettysburg Address, "You will little note nor long remember what I say here."

❑ でも、今日の朝に私が何を話すかが本当に重要なのでしょうか？誰もが知っているように、大抵の演説はすぐに忘れられてしまいます。アブラハム・リンカーンがゲティスバーグ演説で言ったように、「ここで私が言うことをあなたたちはほとんど注目もせず、長い間覚えてもいないでしょう。」

- Google text to speech;
- https://elevenlabs.io/app/speech-synthesis/text-to-speech

I want to create an infographic for a one-pan Aglio e Olio pasta recipe.
Step 1: Add 700ml of water, 1/2 teaspoon of salt, 2 cloves of garlic, and 2 tablespoons of olive oil, then bring to a boil.
Step 2: When the water boils, add 100g of linguine and cook on high heat until the water evaporates.
Step 3: When a small amount of liquid remains, reduce to low heat, add 1 more tablespoon of olive oil, and mix well.
Step 4: Serve the pasta on a plate and finish with a sprinkle of black pepper.
Please make this into a poster-style design.

I'm planning to create a four-panel manga based on the main article of today's Japanese newspaper. Summarize the situation for each panel. Exclude dialogue from the content and write only the scenes and backgrounds. Then, using this content, generate a four-panel manga in the style of Doraemon.

Practice 2
Evaluate the assignment and design a new assignment

A. If every student were the same, teaching and learning would be very easy. But students come to school with many different cultures, knowledge, abilities, growth stages, and learning styles, and this means teachers need many tools to help each student learn well.

B. If every student was the same, the teaching and learning process would be simple. Students come to school with a wide variety of cultural experiences, background knowledge, intellectual abilities, developmental levels, and learning styles, and this requires professionals with an arsenal of tools to meet each learner's needs.

C. If all students were identical, teaching and learning would be straightforward. In reality, learners enter school with diverse cultural backgrounds, prior knowledge, intellectual capacities, developmental stages, and learning preferences. Addressing this complexity requires skilled professionals equipped with a wide range of strategies to meet the unique needs of every student.

Title: **The Impact of AI on Modern Education Systems**.

➢ Write the essay in the most human-like way possible within about 200 words.

➢ Convert the essay into PDF format, save it as "sample{your Group number}.pdf, e.g., sampleG6.pdf", and send it to suyongeum@gmail.com.

❑   Let's examine how close it is to human writing.

1)   https://suyongeum.github.io/shared/example4/sampleG1.pdf

2)   https://suyongeum.github.io/shared/example4/sampleG2.pdf

3)   https://suyongeum.github.io/shared/example4/sampleG3.pdf

4)   https://suyongeum.github.io/shared/example4/sampleG4.pdf

5)   https://suyongeum.github.io/shared/example4/sampleG5.pdf

6)   https://suyongeum.github.io/shared/example4/sampleG6.pdf

1) Whose essay is closest to human writing?

2) Whose essay is closest to AI writing?

3) Ask the AI how to make your writing sound more natural like human.

4) Too many documents…. Is there a better way of doing the checking?

❑ Let's grade the reports below

1) https://suyongeum.github.io/shared/example1/sample1.pdf

2) https://suyongeum.github.io/shared/example1/sample2.pdf

3) https://suyongeum.github.io/shared/example1/sample3.pdf

4) https://suyongeum.github.io/shared/example1/sample4.pdf

5) https://suyongeum.github.io/shared/example1/sample5.pdf

6) https://suyongeum.github.io/shared/example1/sample6.pdf

7) https://suyongeum.github.io/shared/example1/sample7.pdf

8) https://suyongeum.github.io/shared/example1/sample8.pdf

1) Which one gets the best score overall?

2) Which one has low readability?

3) Which one is stronger technically?

4) Which one has a better overall presentation?

5) Is there any evidence that the students copied from each other?

6) There is one report that was written by a human. Which one is it?

❑ First, let's make scoring rubric first.

➢ Make scoring rubric for Technical Assignment: a team project for information science and technology students

➢ https://suyongeum.github.io/shared/example1/scoringrubric.pdf

❑ Let's grade the reports below

1) https://suyongeum.github.io/shared/example3/sample1.jpg

2) https://suyongeum.github.io/shared/example3/sample2.jpg

3) https://suyongeum.github.io/shared/example3/sample3.jpg

Practice 2: Preparing one or two slides to introduce your idea.

❑ Please, be pair to design a new assignment for students in your future class considering following issues?

➢ Can we fairly grade students based on your assignment?

➢ What are students expected to learn from your assignment?

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Practice 3
Idea for future assignment

❑ A brief introduction to the idea for the assignment in your future course.

	A	B
G1	Andrea CSENDOM (Education)	Chika HOSODA (Education)
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