



# Interdisciplinary Approach

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# Outline

- What is Interdisciplinary Learning?
- Concept of Interdisciplinary
- Examples of Interdisciplinary Subjects
- Aims of Interdisciplinary Education
- Benefits for Students
- Examples of interdisciplinary Research Topics in Education
- Conclusion

# What is Interdisciplinary Learning?

## Definition:

Interdisciplinary learning is an educational **technique** that combines different **academic disciplines** to tackle **complex issues**, solve problems, and **create** new understanding.



# Interdisciplinary in Simple Terms

Interdisciplinarity can be defined as a **collaboration** of **two** or more disciplines around a **joint theme**.

# Interdisciplinary Learning

It encourages students to draw connections between different fields of study, improves their **critical thinking**, **creativity**, and ability to **apply knowledge** in real-world settings.

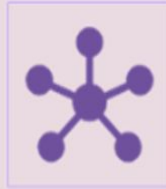
# Why Interdisciplinary?



Increases the  
knowledge



Design  
Educational Path



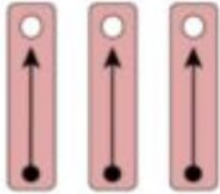
Combine Academic  
Interests



Develop Critical  
Thinking Skills

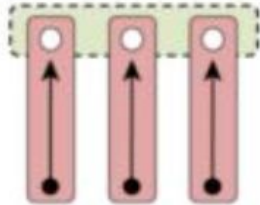


Students- Centre



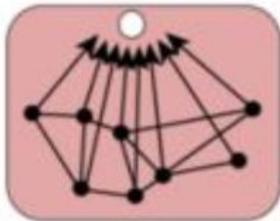
### **Disciplinary**

- Within one academic discipline
- Disciplinary goal setting
- Development of new disciplinary knowledge



### **Multidisciplinary**

- Multiple disciplines
- Multiple disciplinary goal setting under one thematic umbrella



### **Interdisciplinary**

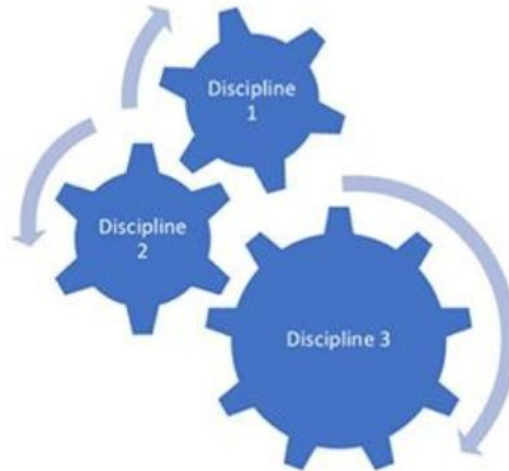
- Crosses disciplinary boundaries
- Development of integrated knowledge

## Independent disciplines



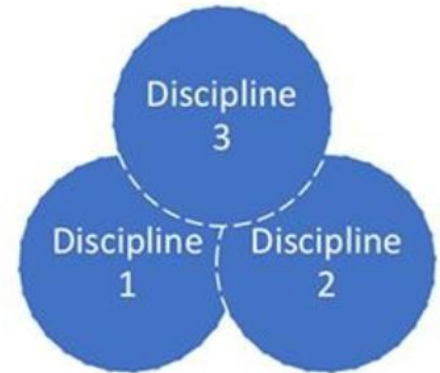
*Involves sequenced and focused content with discipline-based correlated ideas*

## Multidisciplinary



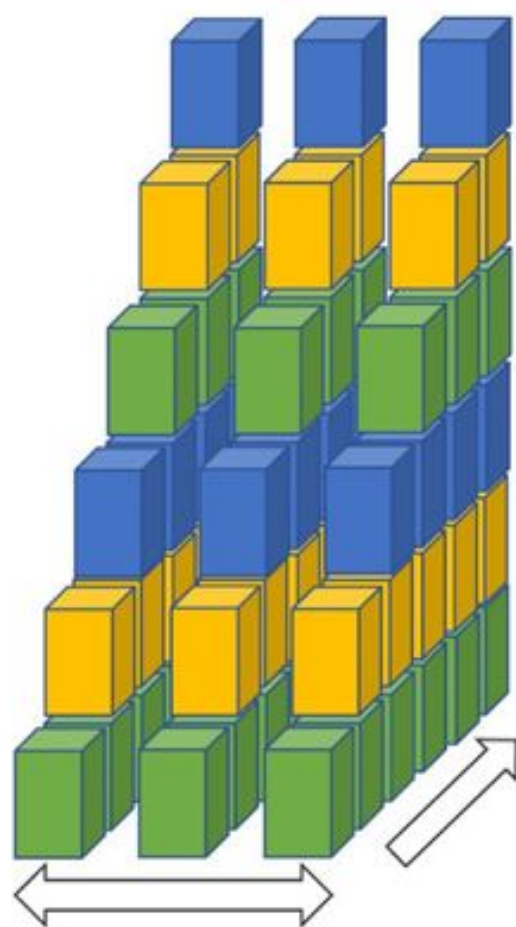
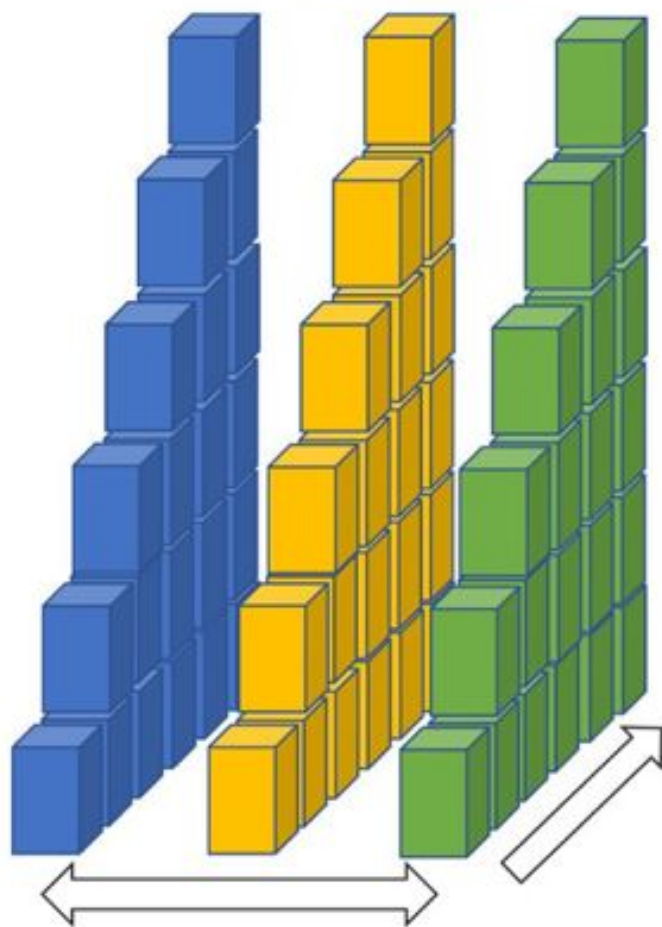
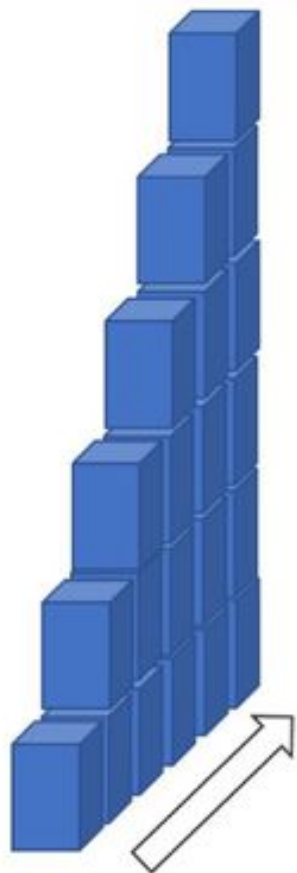
*Contrasts disciplinary perspectives in an additive manner, involving little interaction between disciplines*

## Interdisciplinarity



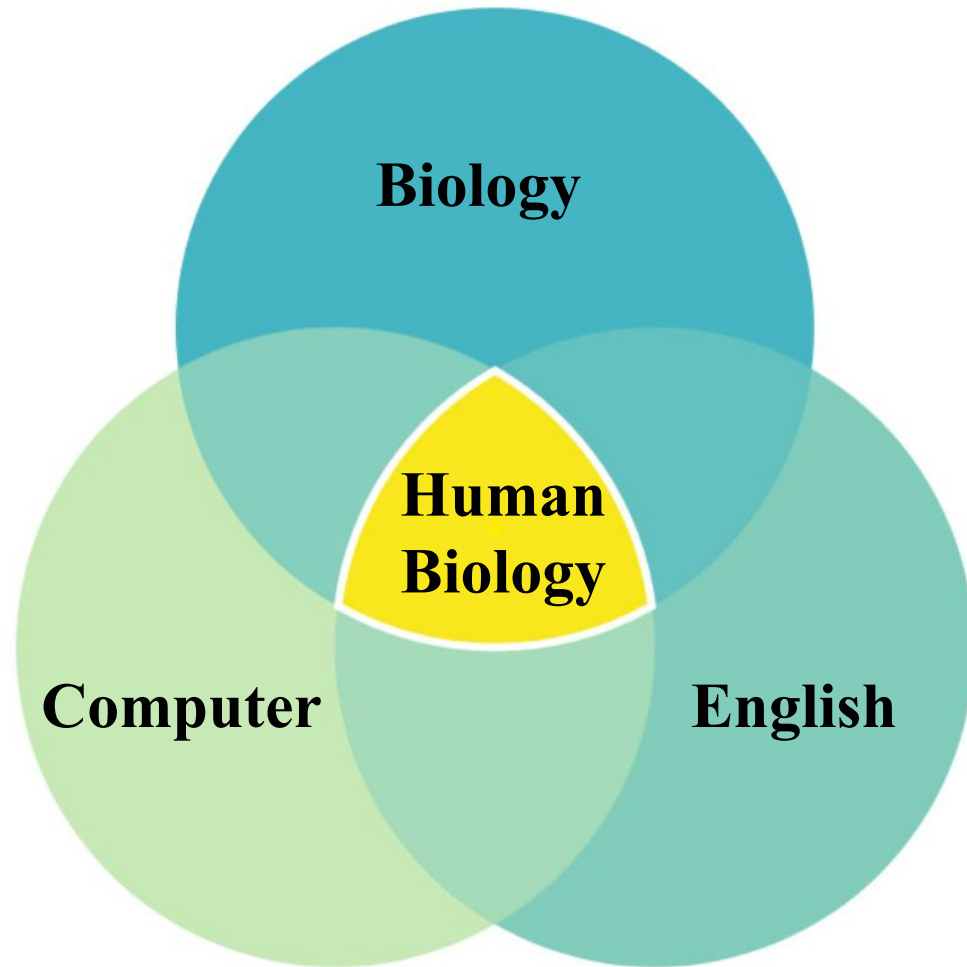
*Combines two or more disciplines to a new level of integration, beginning to break boundaries*



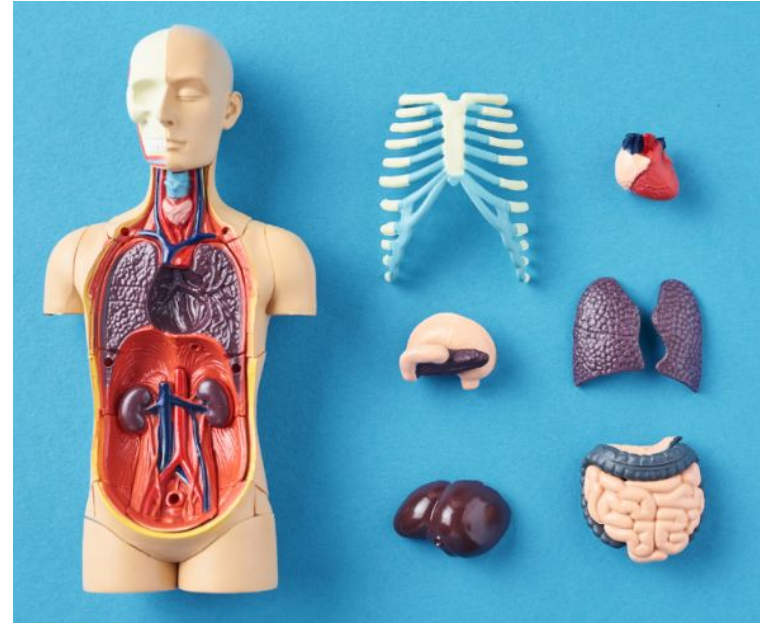
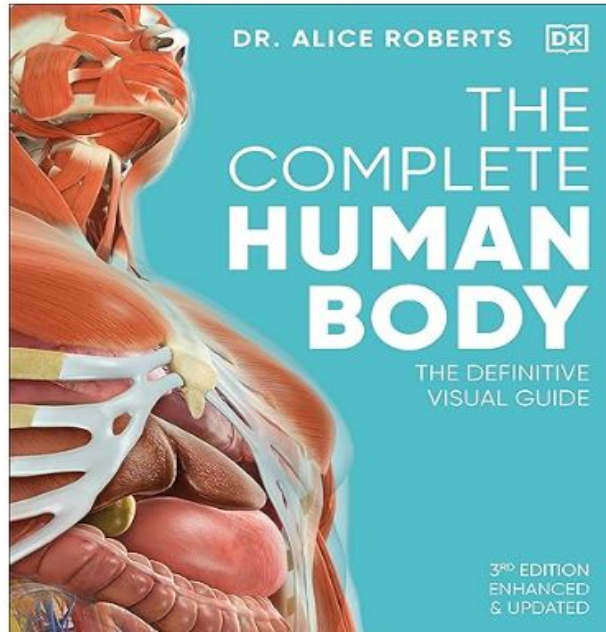


# Examples of Discipline Subjects





# Biology Class



# English Class

## Reading Comprehension

Read the passage and answer the following questions.

### Human Body

Your heart is actually a muscle. It's located a little to the left of the middle of your chest, and it's about the size of your fist. There are lots of muscles all over your body - in your arms, in your legs, in your back. But this muscle is special because of what it does - the heart sends blood around your body. The blood provides your body with the oxygen and nutrients it needs. It also carries away the waste that your body has to get rid of.

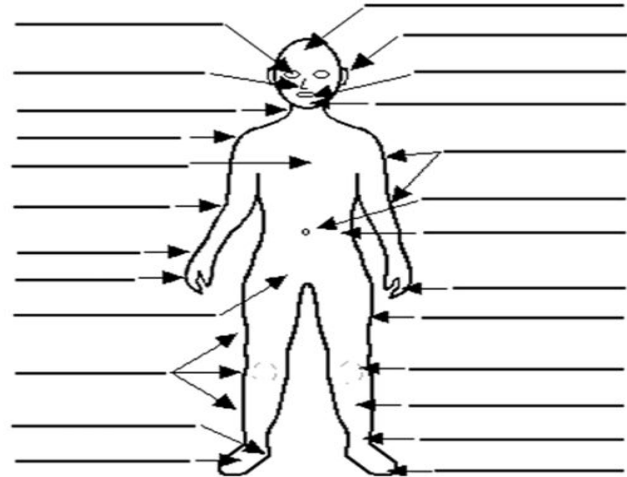
Your heart is sort of like a pump, or two pumps in one. The right side of your heart receives blood from the body and pumps it to the lungs. The left side of the heart does the exact opposite: it receives blood from the lungs and pumps it out to the body. By the time you're grown up, your heart will be beating (pumping) about 70 times a minute.

How does the heart beat? Before each beat, your heart fills with blood. Then it contracts to pump the blood along. When something contracts, it squeezes tighter - try squeezing your hand into a fist. That's sort of like what your heart does so it can pump out the blood. Your heart does this all day and all night, all the time. Every day, an adult heart pumps 2,000 gallons (7,500 liters) of recycled blood by filling and contracting. The heart is one tough worker!

1. Where is your heart located?
2. Where else can you find muscles in your body besides the heart?
3. Why do we need a heart?
4. Which organ(s) directly works with the heart?

## Label the Body Parts

Label the human body diagram using the word list below



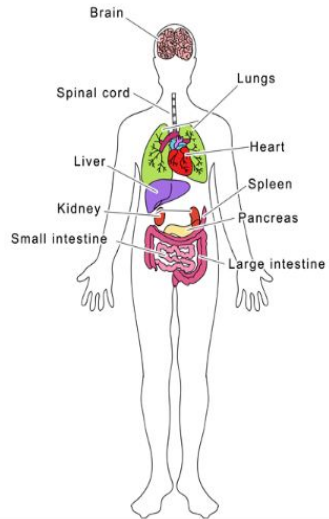
ankle	ear	hand	leg	shoulder
arm	elbow	head	mouth	thigh
belly button	eye	heel	nose	toes
chest	fingers	hip	neck	waist
chin	foot	knee	shin	wrist

# Computer Class

## < Human Body Organs Interactive

This activity allows students to click the diagram of major human organs to learn about their functions.

Click on the organ labels to learn more



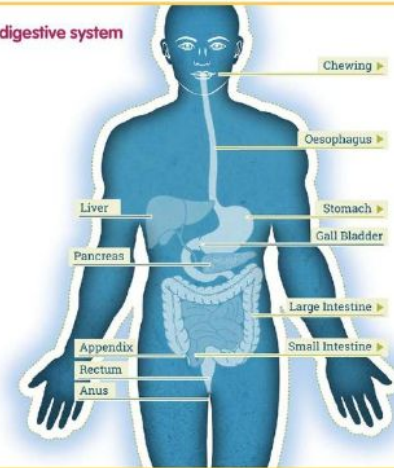
## Exploring the body

### Exploring digestion

#### Resources required:

- |  |  |
|--|--|
| <input type="checkbox"/> Small banana  | <input type="checkbox"/> Pipette or syringe  |
| <input type="checkbox"/> Digestive biscuit or Weetabix   | <input type="checkbox"/> Plastic bag rolled and taped to form a tube (with the bottom cut off) |
| <input type="checkbox"/> Funnel  | <input type="checkbox"/> Plastic sealable bag  |
| <input type="checkbox"/> Small container of water  | <input type="checkbox"/> Stocking or leg from tights   |
| <input type="checkbox"/> Small container with very small amount of food colouring in it (preferably green) | <input type="checkbox"/> Small plastic bag with a small hole cut in the bottom                 |
| <input type="checkbox"/> Small cup of water  | <input type="checkbox"/> Kitchen towels, plastic bin bags, scissors.                           |

### The digestive system



# Collaborative Project

**Human Biology**

Conduct experiments on health technologies

**Computer Science**

Develop procedures for data analysis

**English**

Write comprehensive research papers and present findings

# Assessment and Reflection

## Evaluating Interdisciplinary Learning

Integrated  
Assessments:

Rubrics for presentations, portfolios, and projects

Reflective Journals:

Encourage students to connect learnings from all subjects



# Interdisciplinary Workshops and Seminars

**Title:**

**Enriching the Learning Experience**

**Guest Speakers:**

**Healthcare, technology, and literature experts**

**Workshops:**

**Hands-on activities in health education and writing**

# Aims of Interdisciplinary Education

- To establish an **integrated curriculum**, to organize the educational process in such a way that the learner is placed in **centre of the learning**.
- To engage in activities which require abilities relating to more than **one subject area**.



# Benefits for Students

- **Holistic Understanding:** It helps students gain a comprehensive grasp of complex topics by exploring the intersections between different disciplines.
- **Critical Thinking:** Students develop critical thinking skills by analyzing problems from multiple perspectives and considering diverse viewpoints.
- **Creativity:** Encourages creative thinking and problem-solving by combining ideas from different disciplines.
- **Problem-solving:** Equips students with the ability to tackle complex problems using different approaches.

- **Collaboration and Communication:** Promotes teamwork and effective communication through shared projects.
- **Real-world Application:** Connects academic concepts to practical contexts, preparing students for future careers.
- **Flexibility:** Supports learners with complexity and uncertainty.
- **Global Perspective:** Encourages consideration of global issues and diverse cultures, fostering empathy and cultural sensitivity.
- **Lifelong Learning:** Instills a love for learning and curiosity beyond traditional boundaries, promoting continuous knowledge expansion.

# Frequently Asked Questions

## **How can one conduct interdisciplinary research?**

- Interdisciplinary research is conducted through an intensive process.
- The process includes defining the problem or question, selecting related disciplines, conducting research, producing and testing the information.

# Some Examples of Interdisciplinary Research Topics in Education

- ▣ **Technology-enhanced learning:** Investigating the impact of using **technology** in the classroom environment, combining **knowledge** from education, computer science, and **psychology**.



# What is the Main Objective of Interdisciplinary Research?

- To form a **wide and inclusive understanding** of a topic.
- The process provides **different views** and can lead to new **knowledgeable discoveries**.



# Conclusion

Interdisciplinary learning is an **educational approach** that promotes:

- ❑ Critical thinking,
- ❑ Innovation,
- ❑ Problem-solving,
- ❑ Collaboration,
- ❑ Communication,
- ❑ Flexibility,
- ❑ Global perspective,
- ❑ A lifelong learning mindset among students.





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*Thank You*



# Discussion

To what extent do you support integrating interdisciplinary approach in Cihan university?