



Ucayali State University (UNU)  
School of Computer Science  
Syllabus 2023-I

## 1. COURSE

CS351. Topics in Computer Graphics (Elective)

## 2. GENERAL INFORMATION

2.1 Credits	:	4
2.2 Theory Hours	:	2 (Weekly)
2.3 Practice Hours	:	2 (Weekly)
2.4 Duration of the period	:	16 weeks
2.5 Type of course	:	Elective
2.6 Modality	:	Blended
2.7 Prerequisites	:	CS251. Computer graphics . (7 <sup>th</sup> Sem)

## 3. PROFESSORS

Meetings after coordination with the professor

## 4. INTRODUCTION TO THE COURSE

In this course you can delve into any of the topics Mentioned in the area of Graphics Computing (Graphics and Visual Computing - GV).

This course is designed to perform some advanced course suggested by the ACM / IEEE curriculum. [Hug+13; HB90]

## 5. GOALS

- That the student uses computer techniques Graphs that involve complex data structures and algorithms.
- That the student apply the concepts learned to create an application about a real problem.
- That the student investigate the possibility of creating a new algorithm and / or new technique to solve a real problem

## 6. COMPETENCES

- a) An ability to apply knowledge of mathematics, science. (**Usage**)
- b) An ability to design and conduct experiments, as well as to analyze and interpret data. (**Usage**)
- i) An ability to use the techniques, skills, and modern computing tools necessary for computing practice. (**Usage**)
- j) Apply the mathematical basis, principles of algorithms and the theory of Computer Science in the modeling and design of computational systems in such a way as to demonstrate understanding of the equilibrium points involved in the chosen option. (**Usage**)

## 7. TOPICS

<b>Unit 1: Advanced Topics on Computer Graphics (0)</b>	
<b>Competences Expected: a,b</b>	
<b>Topics</b>	<b>Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• CS355. Advanced Computer Graphics</li> <li>• CS356. Computer animation</li> <li>• CS313. Geometric Algorithms</li> <li>• CS357. visualization</li> <li>• CS358. Virtual reality</li> <li>• CS359. Genetic algorithms</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced Topics on Computer Graphics</li> </ul>
<b>Readings : [Soars022S], [Soars022W], [Soars022T], [Cambridge06], [MacGrew99]</b>	

## 8. WORKPLAN

### 8.1 Methodology

Individual and team participation is encouraged to present their ideas, motivating them with additional points in the different stages of the course evaluation.

### 8.2 Theory Sessions

The theory sessions are held in master classes with activities including active learning and roleplay to allow students to internalize the concepts.

### 8.3 Practical Sessions

The practical sessions are held in class where a series of exercises and/or practical concepts are developed through problem solving, problem solving, specific exercises and/or in application contexts.

## 9. EVALUATION SYSTEM

\*\*\*\*\* EVALUATION MISSING \*\*\*\*\*

## 10. BASIC BIBLIOGRAPHY

[HB90] Donald Hearn and Pauline Baker. *Computer Graphics in C*. Prentice Hall, 1990.

[Hug+13] John F. Hughes et al. *Computer Graphics - Principles and Practice 3rd Edition*. Addison-Wesley, 2013.