

**San Pablo Catholic University (UCSP)**  
**Undergraduate Program in**  
**Computer Science**  
**SILABO**



**CS351. Topics in Computer Graphics (Elective)**

**1. General information**

1.1 School	:	Ciencia de la Computación
1.2 Course	:	CS351. Topics in Computer Graphics
1.3 Semester	:	9 <sup>no</sup> Semestre.
1.4 Prerequisites	:	CS251. Computer graphics . (7 <sup>th</sup> Sem)
1.5 Type of course	:	Elective
1.6 Learning modality	:	Virtual
1.7 Horas	:	2 HT; 2 HP; 2 HL;
1.8 Credits	:	4

**2. Professors**

**Lecturer**

- Erick Gomez Nieto <emgomez@ucsp.edu.pe>
  - PhD in Ciencia de la Computación y Matemática Computacional, Universidad de Sao Paulo - USP, Brasil, 2017.
  - MSc in Ciencia de la Computación, Universidad de Sao Paulo - USP, Brasil, 2012.

**3. Course foundation**

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. Hughes et al. (2013); Hearn and Baker (1990)

**4. Summary**

1. Advanced Topics on Computer Graphics

**5. Generales 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. Contribution to Outcomes**

This discipline contributes to the achievement of the following outcomes:

- 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. Content

### UNIT 1: Advanced Topics on Computer Graphics (0)

Competences: a,b

Content	Generales Goals
<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>

**Readings: Soars022S, Soars022W, Soars022T, Cambridge06, MacGrew99**

## 8. Methodology

El profesor del curso presentará clases teóricas de los temas señalados en el programa propiciando la intervención de los alumnos.

El profesor del curso presentará demostraciones para fundamentar clases teóricas.

El profesor y los alumnos realizarán prácticas

Los alumnos deberán asistir a clase habiendo leído lo que el profesor va a presentar. De esta manera se facilitará la comprensión y los estudiantes estarán en mejores condiciones de hacer consultas en clase.

## 9. Assessment

**Continuous Assessment 1** : 20 %

**Partial Exam** : 30 %

**Continuous Assessment 2** : 20 %

**Final exam** : 30 %

## References

Hearn, Donald and Pauline Baker (1990). *Computer Graphics in C*. Prentice Hall.

Hughes, John F. et al. (2013). *Computer Graphics - Principles and Practice 3rd Edition*. Addison-Wesley.