



Microprogramación





Hola!

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A decorative graphic on the left side of the slide. It features a large central hexagon with a blue-to-cyan gradient, containing the number '1'. Surrounding this central hexagon are several smaller hexagons of varying shades of blue and cyan. Some of these smaller hexagons contain white icons: a lightbulb (top left), a thumbs-up (top center), a smartphone (bottom left), a magnifying glass (bottom center), and a gear (bottom right). There is also a network-like icon with a central node and five connecting lines (top left) and a speech bubble icon (bottom left).

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Objetivos



Objetivos

- ◇ Proveer los fundamentos básicos de lenguaje de bajo nivel y la programación de microprocesadores en base a su set de instrucciones.
- ◇ Proveer los conocimientos básicos de los lenguajes de bajo nivel y su evolución histórica.
- ◇ Conocer la estructura básica de una computadora.
- ◇ Que el estudiante conozca de forma muy básica los sistemas numéricos decimal y binario como base de la computación digital.





Objetivos

- ◇ Que el estudiante aprenda la división y funcionamiento básico de la memoria principal.
- ◇ Que el estudiante cuente con las bases para desarrollar programas en lenguaje ensamblador y base al set de instrucciones de la familia Intel 80x86 y Macroensamblador



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2

Distribución de zona



Actividades

- ◇ Prácticas de laboratorio: 20
- ◇ Proyectos 30



A decorative graphic on the left side of the slide. It features a large central hexagon with a blue-to-teal gradient, containing the white number '3'. Surrounding this central hexagon are several smaller hexagons of varying shades of blue and teal. Some of these smaller hexagons contain white icons: a lightbulb, a thumbs-up, a smartphone, a magnifying glass, and a gear. There is also a network-like icon with a central node and radiating lines, and a speech bubble icon.

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¿Por qué lenguaje ensamblador?



Importancia de ASM

- ◇ Hoy día, muchas rutinas que son cuellos de botella se traducen en lenguaje ensamblador para minimizar tiempos de ejecución.
- ◇ Uso de dispositivos que realizan tareas específicas.
- ◇ Crear Virus
- ◇ Crear Bootloaders
- ◇ Videojuegos



A series of hexagonal icons in various shades of blue and cyan are arranged along the left edge of the slide. The icons include a lightbulb, a thumbs-up, a network node, a smartphone, a magnifying glass, a gear, and a speech bubble.

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¿Qué veremos?



Lenguaje ensamblador

- ◇ Turbo Assembler arquitecturas x86
- ◇ Macro Assembler 32bit



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Entorno de desarrollo



Turboassembler





Herramientas

Virtualización:

- ◇ VMWare
- ◇ Hyper-V
- ◇ VirtualBox
- ◇ Parallels

Nota: Deben poder compartir archivos con su máquina virtual.





Herramientas

Sistema operativo

- ◆ Cualquier SO Microsoft de **32 bits**





Herramientas

IDE:

- ◇ Notepad
- ◇ Notepad ++
- ◇ VS Code
- ◇ Sublime Text







Herramientas

Generación de ejecutable:

- ◇ TASM
- ◇ TLINK
- ◇ CMD



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Proceso



Flujo para crear ejecutable

Assembly program development



