Information Technology Institute

Game Programming Track
Executive Summary

People Develop Countries... We Develop P.E.O.P.L.E.

Program Admission Arrangements

Who May Apply?

Applicants must have a first degree from a recognized university or institution of higher education or provide documentation indicating that they will earn such a first degree before enrolment in the training program, and those with grade Fair can apply too

Prerequisites

For game programmer track, applicants must have adequate knowledge in OOP concepts and have developed any software programs before and preferred to be using any of popular game engine , have good knowledge in mathematic and physics

Selection Process

- **Phase 1: IQ and Problem-Solving exam | English exam**
- **Phase 2: Technical Exam**
  Computer-based technical exam in the field of your interest
- **Phase 3: Technical Interview**
  Those applicants would be discussing with the interviewing panel their pre-work -"Before You Apply"- in a one-to-one interview
- **Phase 4: Interpersonal Skills Interview**
  Those who pass phase 3 will be promoted to this interview

Delivery Approach

- **70 % face to face - Learning| 30 % Online**

- **Hardware requirement:** Laptop with at least 16 GB of RAM and I7 10th generation, SSD 256 GB, at least GTX 960 series or equivalent, preferred RTX 2060 and Wacom graphics Tablet
- **Software requirement:** Adobe Creative Collection (Photoshop, Illustrator, Animate, After effects) Maya, Substance Painter and Designer, Marmoset, Unity 3D, Unreal Engine

Students' Deliverables

- Each student must deliver finished polished game project and Certificates in assigned course per track

Game Programming

1 **Programs Offered**

- PTP -Smart Village (Game Programming, Game Art)
- Intensive Training Program- Cairo University
  (XR Developer, XR Artist)
- Online Summer Training Game Art –Menya Branch.
- Summer Training New Administrative Capital Branch
  Faculty of Archaeology
- Junior Academy- New Administrative Capital Branch
(Game Programming, Game Art)

2 **Industry/Academy Stakeholders**

3 **Targeted Outcome**

- Employability
- Awareness

4 **Technical Consultant(s):**

- Dr. Ahmed Hisham (AUC)
- M. Seif (Instinct games)
- Karim Abu Elenein (LargeLabs)

5 **Certifications**

Ubisoft Game Creators' Odyssey

6 **Graduates Job Profiles**

Game Programmer
Game Programmers are responsible for bringing the game designers' visions to life through code.
They develop game play, game UI, and AI using Unity3D or Unreal engine

Engine Programmer
They develop tools and systems that run the game.

XR Programmer
Create AR/VR/XR experiences.

Unity Developer
They are skilled programmers who use Unity game engine to design, create and build high-quality
2D and 3D games for smartphones, desktop computers, and gaming consoles.

Unreal developer
They are skilled programmers who use Unreal game engine to design, create and build high-
quality 3D games either by using engine blueprints for Unreal Engine or C++ coding.

Game Designer
They define the way the game is played,the 'game experience' rules of the game, settings, story,
characters, props such as weapons and vehicles.

Game Programming

900 Hours

Program Content Structure

Fundamental courses
- **Track Orientation Workshop**
- Introduction to Games
- Game Art Foundation

Game Design courses
- Game Design
- Game Level Design

Programming courses
- Object-Oriented Programming
- & Data Structures for Game Development
- Visual C# .NET for game development
- Game Design Patterns

Game Engine Programming
- Mathematics for Game Development
- Physics for Game Development
- Computer Graphics Programming
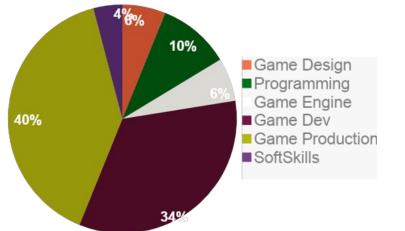- using OpenGL

Game Development
- JS & HTML5 Game Development
- Game Development using Unity3D
- Advanced Game Development using Unity 3D
- Artificial Intelligence for Game Programming
- Game Network Programming
- Virtual Reality Game Design
- Virtual Reality Programming
- Augmented & Mixed Reality Programming
- Game Development Using UNREAL Engine
- Level Editing

Game Production
- Agile Software Development Methodologies
- Game Production and Project Management

Soft Skills Courses
- Communication Essentials for Professionals
- High Impact Presentations
- Progressive Teamwork (Workshop)
- Professional Demeanor (Workshop)
- Best Practices For Remote Working (Workshop)
- Job Seeking Skills

Pie chart legend:
- Game Design — 6%
- Programming — 10%
- Game Engine — 6%
- Game Dev — 34%
- Game Production — 40%
- SoftSkills — 4%