



immerse
EDUCATION

Software Development & Gaming

SYLLABUS OVERVIEW

15-18 YEARS OLD

20
12

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EDUCATION

About the Programme

Immerse Education is an award-winning provider of summer experiences offering academic and career-focused programmes for high school students from worldwide, in such locations as Boston, Cambridge, London, New York, Oxford, San Francisco, Singapore, Sydney, Tokyo, and Toronto. These programmes aim to deliver engaging, academically challenging content within a university-style classroom environment.

The Career Insights programmes bring together industry professionals and university tutors in a unique learning model grounded in project-based learning. Students gain valuable insight into what it's like to study their chosen subject at an advanced level and apply their skills in real-world contexts through interactive academic sessions, practical workshops, and industry visits.

Explore Future Careers

Do you have your sights set on a particular career path? The Career Insights summer programme will introduce you to a world of opportunities in the field, using project-based learning and practical study to enhance your skills and knowledge.

On this unique programme, you will explore real- world issues relating to the context of your chosen subject, working alongside other academically talented participants to innovate and pitch groundbreaking ideas. Interactive workshops and networking events offer you the opportunity to learn from professionals in the business. The Career Insights educational model is designed to support you in finding the career path best suited to your long-term goals and ambitions. Immerse Education has worked with expert guidance counsellors, seasoned educators and experienced career advisors to design the ultimate career preparation course.

Transformative Educational Experiences





Project Based Sessions

Career Insights lessons are built on the foundation of hands-on learning. We want you not just to retain knowledge, but also to apply your newfound understanding to real-world, practical examples as you develop throughout the programme. Our Project Based sessions are designed for you to have ample opportunity to apply what you are learning to practical tasks, allowing you to further identify gaps in your knowledge and skillset while solidifying your growth and understanding.



Industry Visits

One of the most exciting parts of the Career Insights programme is the unique opportunity for participants to attend inspiring industry visits whereby they can interact and learn from industry professionals in their field of study. Industry visits take learning out of the classroom and into the real world, where students can observe and explore how the skills and knowledge built throughout the programme apply to a career in their subject. This unique aspect of our programme ensures students also gain the chance to network directly with industry professionals who may share with you opportunities you hadn't otherwise envisioned.

Why Get Career Ready?

High-quality career guidance is essential for young people making informed decisions about their future. To bridge this gap between the excellent work of schools throughout the year and practical experience, the Career Insights programme aligns with the eight Gatsby Benchmarks of Good Career Guidance, an educational framework designed to prepare students for future careers.



Careers guidance embedded in a residential experience



Encounters with employers and employees



Learning from career and labour market information



Experiences of workplaces



Addressing the needs of each student



Encounters with further and higher education



Linking curriculum learning to careers



Personal guidance

Aim of the Software Development & Game Design Programme

A game designer is a mastermind behind the enchanting worlds of video games, making intricate narratives possible and devising captivating gameplay mechanics. Games like Minecraft, Roblox, and Candy Crush owe their immersive experiences to the brilliance of game designers. In a digital era where games are an integral part of our lives, the realm of game design and software development has transformed into an ever-evolving creative frontier.

This comprehensive program delves into the heart of game design and software development, unraveling the art of crafting engaging gameplay and the science of programming innovative mechanics. Aspiring game designers and developers will be equipped with a profound understanding of storytelling, player engagement, coding, and software architecture. Through hands-on projects and guided learning, you will acquire the expertise to create captivating digital experiences. Whether you're designing intricate game plots or engineering seamless interactions, this program prepares you to flourish in the diverse and exciting landscape of game creation and software development.



Introduction to Game Design

Over the course of this module, you will form an understanding of the foundational principles of game design and how to apply them to real-world game creation. You will learn how to design game scenarios and characters, create game mechanics and dynamics, observe and learn from different game genres, create games and code using Construct 2, and publish your final results so that others can access your game.



OTHERWORLD VR Experience

OTHERWORLD is a virtual island paradise, home to sixteen unique VR experiences, accessed only from a growing network of city centre metaverse portals. On this industry visit you'll step into your own interactive immersion pod: a private space that combines an advanced VR headset with dynamic heat, wind and rumble effects to maximise your journey into an immersive virtual reality. Once inside the virtual world you'll be reunited with your peers on the programme and experience the world of VR.

Hobs 3D at Here East, Queen Elizabeth Olympic Park

The Hobs Group boasts a comprehensive variety of both 3D and 2D solutions. On the physical side, they offer 3D printing, product design, model making, 3D scanning, and multijet printing solutions - amongst other services! On the visual side, they work with CGI, animation, motion graphics, and more, and they also offer interactive solutions such as virtual reality, augmented reality, 360 tours, and digital twins. As a result, they can help companies across a huge variety of sectors - construction, engineering, art, marketing, healthcare, defence, and more.

Many of the technologies they work with will be integral to a career in game design, and you'll be able to discover how software developers fit into this creative ecosystem. Software developers play a pivotal role within a 3D creative agency like the Hobs Group, contributing their technical expertise to bring the agency's innovative visions to life through developing cutting-edge software solutions that enhance the agency's capabilities in areas like 3D visualisation, virtual reality, and interactive experiences.



```

/main.js [Arnold Franciosa]
ADD CONFIGURATION...
main.js
},'-900')
.add
({
  targets: 'nav ul li',
  translateY: [-100, 0],
  opacity: [0,1],
  easing: 'easeOutBack',
  duration: 600,
  delay: anime.stagger( n 140) // Increase delay by 100ms for each elements.
},'-900');

secret-button).click(function()

$('h1,h2,h4,p,li,a,footer,hr').toggleClass( value: 'secret');
$('body').toggleClass( value: 'secret_bg');
$('footer').toggleClass( value: 'secret_color ');
$('.pink-button').toggleClass( value: 'secret_bg_color ');
$('.skill--tag').toggleClass( value: 'secret_tags');
$('.skill--tag h2, .skill--tag p').toggleClass( value: 'secret_text');
$('h1,h2,h4, a').toggleClass( value: 'secret_title');
if (toggled === false)

$('.intro--image').attr( name: 'src', value: 'images/secret--hero.jpg');
$('.moving--img').attr( name: 'src', value: 'images/icons/secret_icons/pngkey.com');
$('.HTML').attr( name: 'src', value: 'images/icons/secret_icons/expand_hierarchy');
$('.GIT').attr( name: 'src', value: 'images/icons/secret_icons/world_network_dir');
$('.JS').attr( name: 'src', value: 'images/icons/secret_icons/directory_folder_opti');
$('.DEV').attr( name: 'src', value: 'images/icons/secret_icons/shut_down_normal-4.p');
toggled = true;

up
ask for ready()
Event Log
Material Oceanic 75:1 LF UTF-8 4 spaces Git: master

```



Introduction to Coding

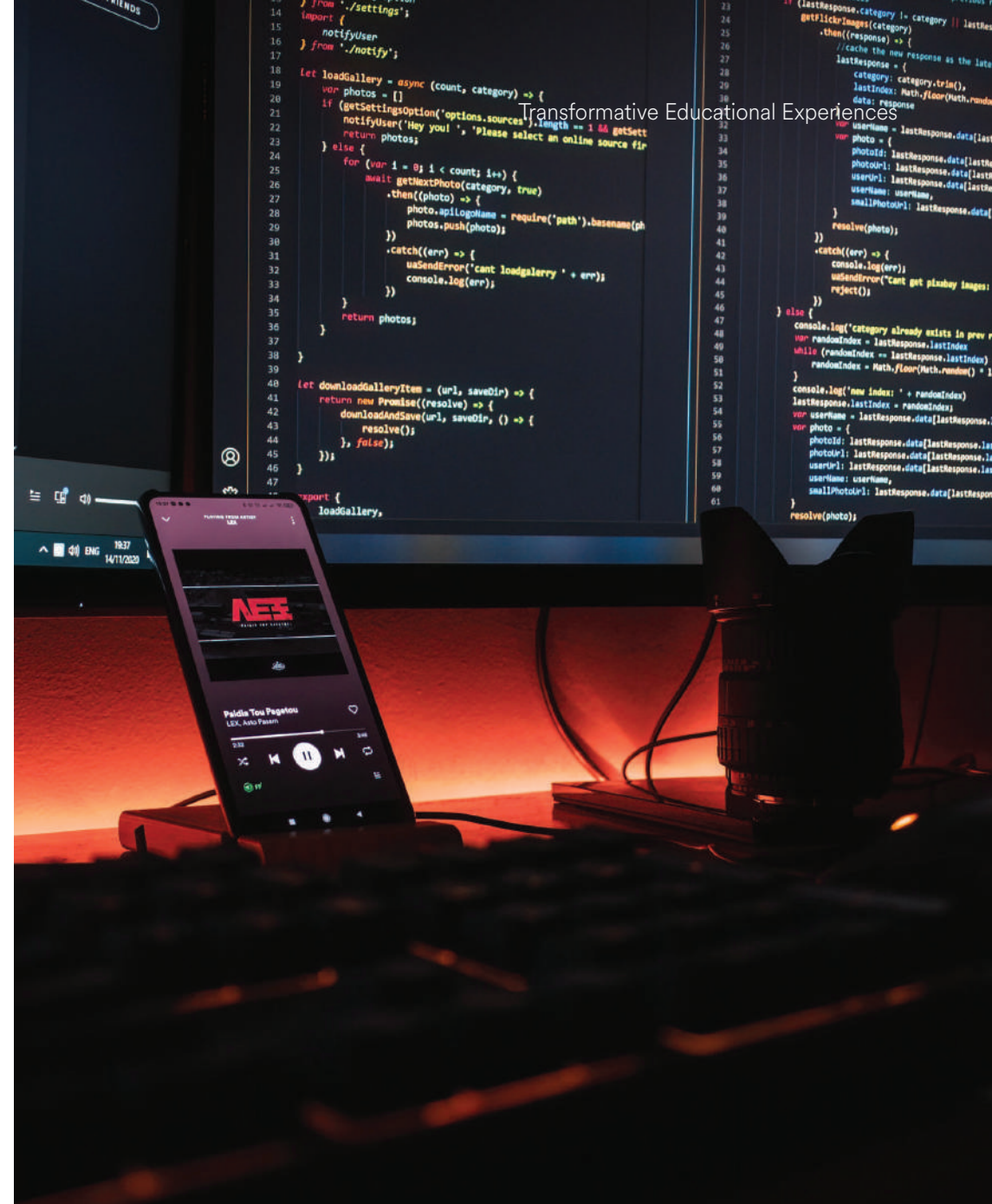
Coding is the process of telling a computer what to do. You provide the computer instructions via 'code', the computer's language, in order for it to perform a specific action - an integral part of the game design process. Using code can be as simple as adding a series of letters to change the background colour of your game to something more complex such as how a player progresses through the game narrative.

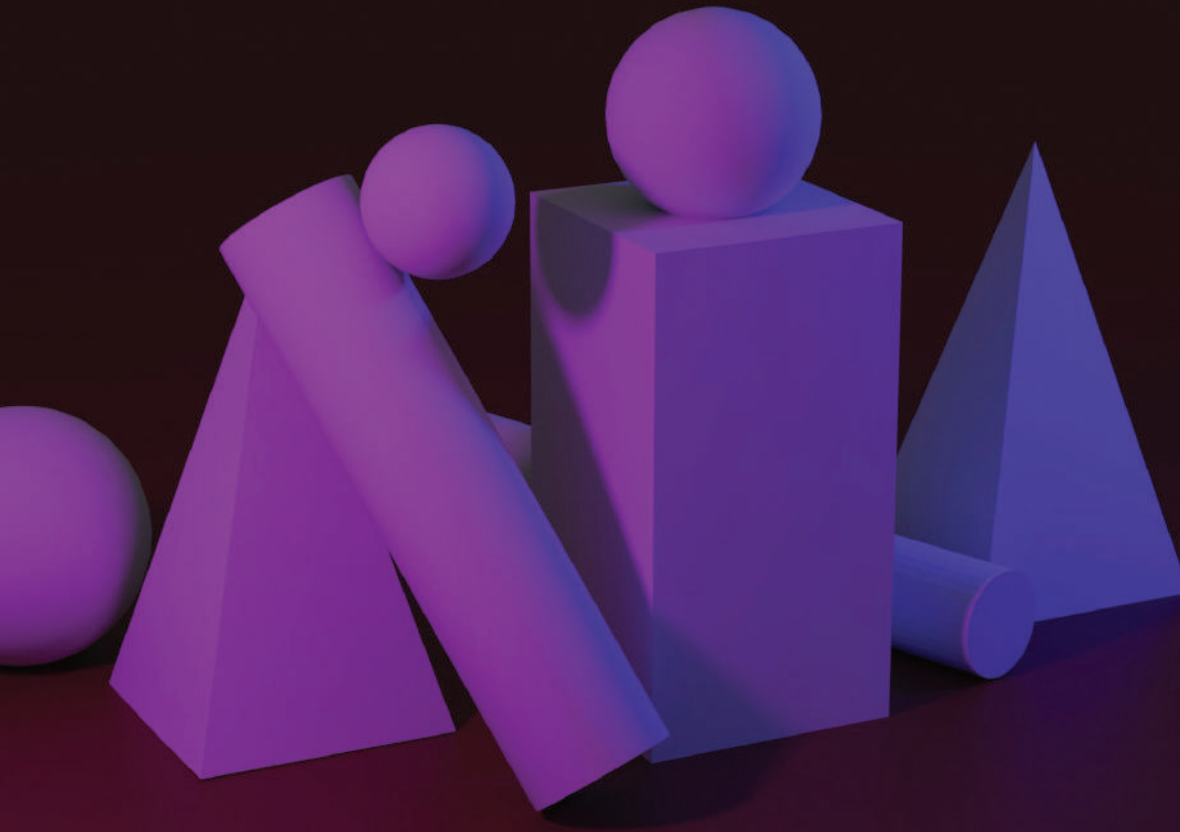
The skill of coding is not only essential for game makers but it is now a highly sought-after skill in an array of industries, such as healthcare, business, and education.

Software Development

Software development involves crafting digital solutions that harness technology's full potential. It extends beyond coding, weaving design, problem-solving, and innovation. Through it, you orchestrate algorithms, data structures, and user interfaces for impactful applications. Whether streamlining business operations, designing user-centric apps, or developing cutting-edge tech, this realm demands creativity and technical acumen.

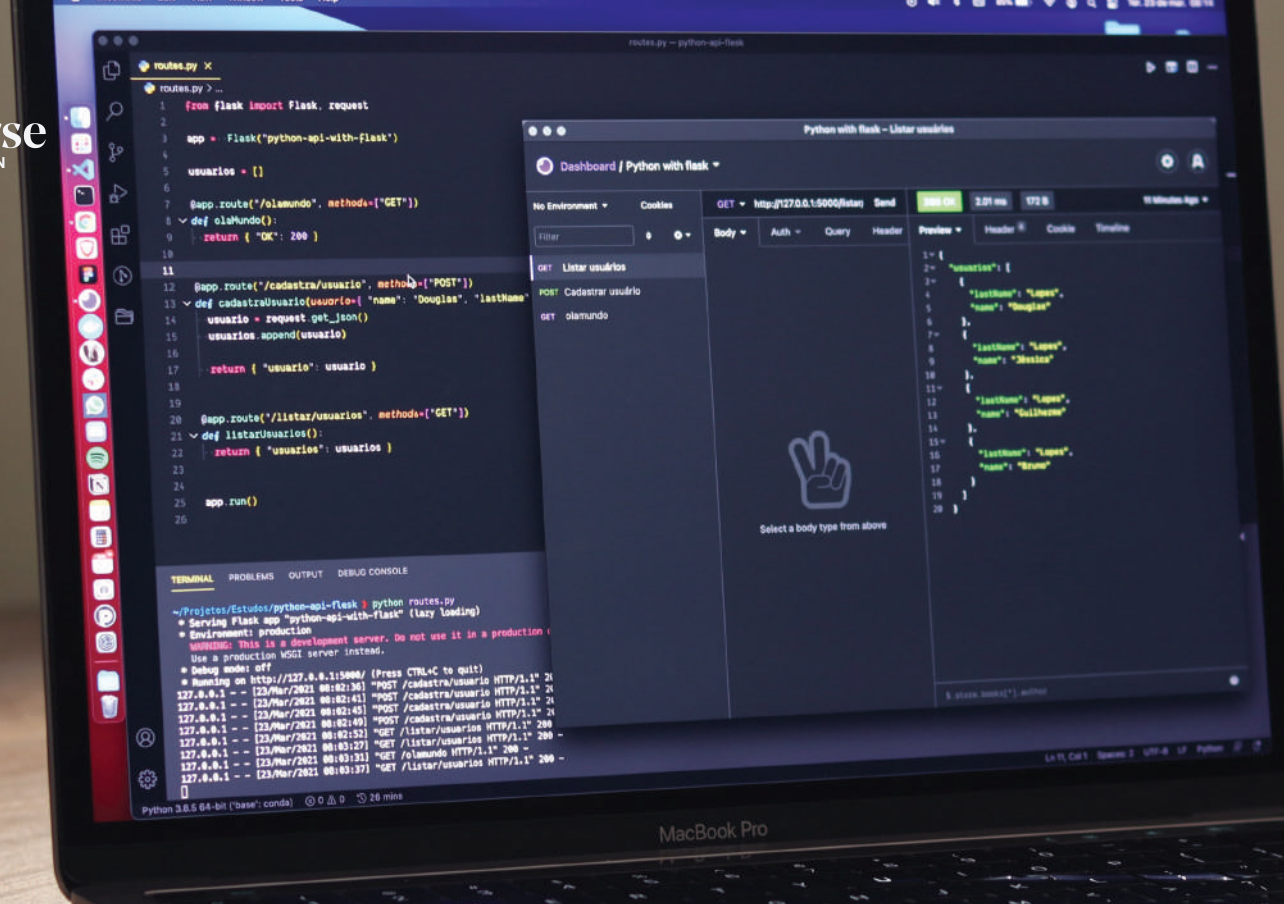
The knowledge you gain will be relevant across domains from finance to healthcare. As you journey, you'll master the foundations of software construction and embrace the dynamic role of a digital craftsman shaping the future.





Unity

In this module, you will encounter the world's most widely-used game creation platform - Unity. You will learn to understand Unity's interface, create a new project of your own, interpret visual scripting (and some C/C# knowledge), and manage the field. You will also learn how to interact with the different Unity environments and learn how to create 3D and 2D models. Knowing how to apply light and shadow effects as well as other materials, and manage images using GIMP to bring your game to life will also be an important part of your learning in this unit.



Introduction to Python

Python is one of the most widely used programming languages , for game design as well as web development, data analysis, artificial intelligence, scientific research, and automation tasks. In this module, you'll learn all about Python, discover basic programming concepts, and learn how to read basic Python syntax and interpret error messages. You'll use your new game design skills built in previous units along with your understanding of Python to create your own game.

```

3      import mementoes from '../store.js'
4      import './sidebar.scss';
5  </script>
6
7  <div class="sidebar">
8      <button class="add-memento" onclick=sidebarController.addMemento()>Add Memento
9
10     <ul class="mementoes">
11         {#each $mementoes as memento}
12             <li class="memento-item" class:active=memento.isActive
13                 onclick={() => sidebarController.toggleMemento(memento.id)}>
14                 {memento.title}
15             </li>
16         {/each}
17     </ul>

```

RPGMaker Masterclass

RPGMaker is a program which helps us to create 2D role-playing games without the need to code. RPGMaker uses Ruby or Javascript as programming languages and has an attractive interface which makes it user-friendly. The final results of using RPGMaker can be escalated to several platforms often it's used in game design. In this module, you'll discover how to install and run the TPGMaker environment, understand the RPGMaker games structure, and create game maps, characters, facilities and elements for the game.

Scratch Game Design

Scratch is a visual programming environment designed to create and share animated stories all the while learning how to code. Scratch offers an intuitive interface which is easy to understand, ideal for beginners just starting out in the game design world. You will use scratch to start building your own games, bring your ideas to life to create a functional prototype, and contribute and experience different solutions to game design problems.





Coding Languages

In this unit, we will take a brief look at the various coding languages available to use in software development to create, modify, and maintain software applications and systems. You will learn the differences between coding languages such as how some are easier to use and understand for programmers but may offer less control over computers. We'll explore how some other languages are more machine-friendly, making them faster to execute and more memory-efficient, but harder for humans to understand. At the end of this module, you will have a firm understanding of the coding languages that are appropriate to use for different purposes.



The Career Insights programme has been really (for lack of a better word) immersive. I think Immerse has given me a lot of clarity in terms of having a better understanding of what a career, or even university education, looks like.

Mia

Immerse Career Insights Alumni



Partnerships & Accreditation



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