



# Grade 10: Computer Science



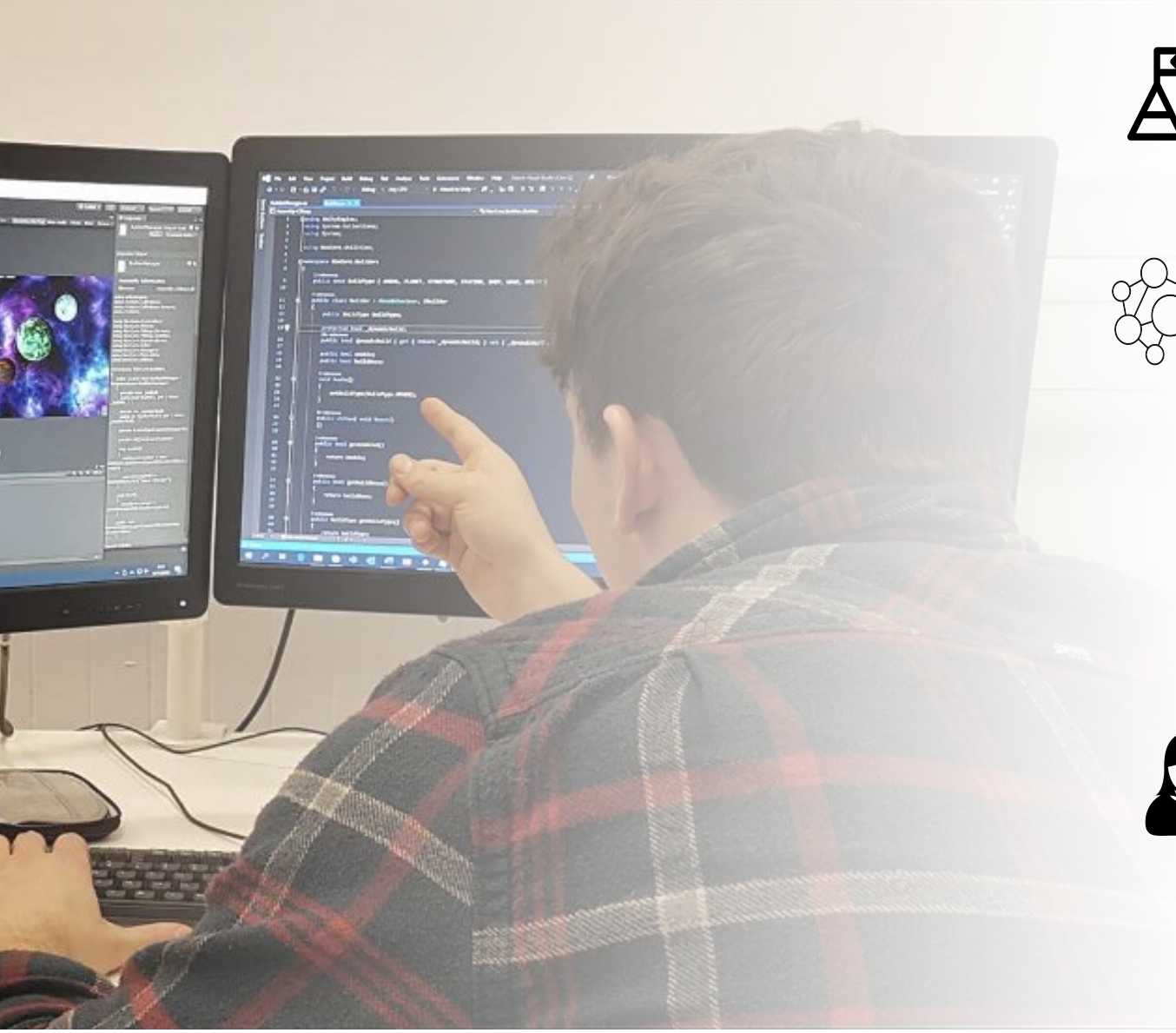


# AIMS OF DESIGN

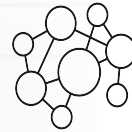
Source: IB MYP Design Subject Guide

- enjoy the design process, develop an appreciation of its elegance and power
- develop knowledge, understanding and skills from different disciplines to design and create solutions to problems using the design cycle
- use and apply technology effectively as a means to access, process and communicate information, model and create solutions, and to solve problems
- develop respect for others' viewpoints and appreciate alternative solutions to problems

# Unit: Game Development



**Goal:** Develop a game for a specific user



## Situation:

The benefits of videogames include improved powers of concentration, creativity, memory, languages and teamwork. Videogames can make it easier to learn educational content and develop cognitive skills



## Role:

You will identify an educational need that can be addressed with a game. You will research into this needs, and apply your programming skills to develop a game.



## Unit: Smart Farm



**Goal:** Optimize microgreen growing systems using digital technology



### **Situation:**

A growing population requires reliable means to produce food. However, several factors are threatening humankind's ability to produce food in a sustainable and economical manner: Agricultural land is shrinking; We will need to reduce our dependence on fossil fuels, pesticides, and fertilizers; reduce our consumption of natural resources such as water; and increase the productivity of our agricultural system.



### **Role:**

You are a part of a team designing a prototype for a micro-greenhouse. Your specific role is to design the digital and mechanical control systems for the prototype.



# MYP & DP Design Courses

6

## Introduction to the Design Cycle

Learning about the steps in the design cycle and how we use it to solve problems

7

## Understanding Design Challenges

Develop an understanding of how to identify and solve unique problems using Design skills

8

## Understanding users & their needs

Refining research and technical skills to solve design problems

9

## Developing as a designer

Developing digital and product design skills to solve authentic problems

10

MYP Product Design

10

MYP Computer Science

10

MYP Robotic Design and Engineering

10

MYP Digital Media Design

10

MYP Entrepreneurship and Design

DP Group 4

DP

Design Technology

DP

Computer Science

DP

Visual Art

DP

Film

DP Group 6



# G10 & DP Design Courses

## **10** MYP Product Design

Designing solutions to complex problems for users.

## **10** MYP Computer Science

Developing the foundations of computational thinking

## **10** MYP Entrepreneurship and Design

Integrating entrepreneurial principles with design thinking

## **10** MYP Robotic Design and Engineering

Developing technical and critical thinking skills to create innovative, creative and competitive solutions.

## **10** MYP Digital Media Design

Using digital technologies to communicate and tell stories

### DP Group 4

## **DP** Design Technology

Develop design literacy through developing and applying technical skills in authentic contexts.

## **DP** Computer Science

Explore and apply computational thinking in authentic contexts

### DP Group 6

## **DP** Visual Art

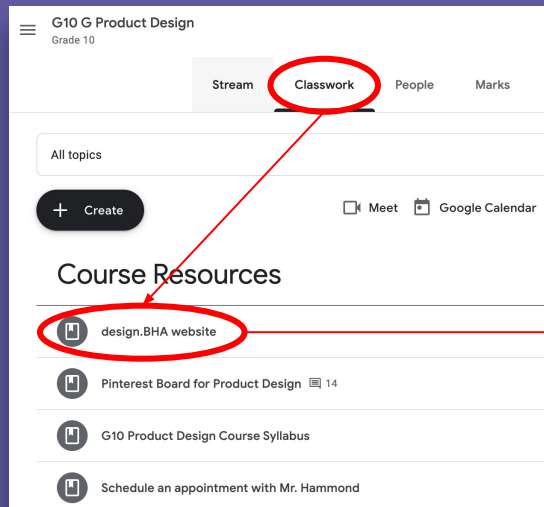
Experiment with diverse media and explore techniques for making art

## **DP** Film

Develop an artistic voice and learn how to express personal perspectives through film

# LEARN MORE ABOUT OUR PROGRAM

## Your Child's Google Classroom



## Design Department website



## BHA Design FAQ

