

**Course program: Regular track International Game Architecture and Design (IGAD)
(also called Creative Media and Game Technologies, CMGT)**

Erasmus Exchange - Project handbook 2018-19

- Educational vision: This program focuses on the *Role Based Learning* (RBL) system. The majority of your time (5 days a week) will be spent working on projects. There are no 'traditional' classes or courses, but workshops & lectures are given every Wednesday and are free for every Game student to join in.
- Based on your prior knowledge gained at your home university you continue your study path (Visual Artist, Programming or Design & Production) by choosing a role within a project. Check out the IGAD study paths on www.nhtv.nl
- Through an internal IGAD system you define your Learning Plan and choose the competencies you wish to gain and then you will have to demonstrate proof at the end of each block and discuss the knowledge gained in a panel during the assessment week. The project lab supervisors will accompany you in this process offering you feedback throughout the block.
- Every project must be passed with a sufficient grade (5.5) in order to get the study credits.
- At IGAD the first semester (Fall) exist out of block A and B. The second semester (Spring) covers block C and D. Each block has 8 project weeks, 1 assessment week and 1 re-assessment week.
- Attending project lab day is mandatory, you can not travel during school weeks. Being absent because of traveling, may result in failing a block. The green highlighted weeks in the academic calendar overview (last pages) are the best weeks to travel.
- When coming over for an exchange in Fall semester, make sure to be in Breda on the 25th or 26th of August 2018, so you can take part in the introduction days (introduction festival Camp Lost). To make sure you are up and running in lecture week 1, you must be in Breda before the 30th of August 2018.
- If you are coming over for a Spring semester, make sure to arrive in Breda around the **7th or 8th of February 2018.** (Classes start February 11th 2019) Come early so you have enough time to get settled before block C starts.
- All school communication/documentation is done in English only.
- An exchange student may choose from projects of year 1, 2 and 3. This will be done in consultation with the Exchange coordinator.
- The course Dutch for Foreigners (course code DFF) is offered to all international Breda University of applied sciences degree seeking and exchange students.
- Students must have their own laptop. Laptop specifications can be found www.buas.nl under CMGT study costs.
- Explanation of project codes
FGA = Full time Game Architecture and Design program
FGA₁ = year 1 project
P = Project
- Note! The aim of the projects in 2018- 2019 might slightly change as how they are presented below.

Curriculum Overview of IGAD 2018-2019

		Semester:	Fall		Spring	
Year	Code	Working Name	Block A	Block B	Block C	Block D
1	FGA1.P1-01	Project 1.1 Foundation 1	15 ects			
1	FGA1.P2-01	Project 1.2 Foundation 2		15 ects		
1	FGA1.P3-01	Project 1.3 Foundation 3			15 ects	
1	FGA1.P4-01	Project 1.4 Foundation 4				15 ects
2	FGA2.P1-01	Project 2.1 Intermediate 1	15 ects			
2	FGA2.P2-01	Project 2.2 Intermediate 2		15 ects		
2	FGA2.P3-01	Project 2.3 Intermediate 3			15 ects	
2	FGA2.P4-01	Project 2.4 Intermediate 4				15 ects
3	FGA3.P1-01	Project 3.1 Advanced 1	15 ects			
3	FGA3.P2-01	Project 3.2 Advanced 2		15 ects		
3	FGA3.P3-01	Project 3.3 Advanced 3			15 ects	
3	FGA3.P4-01	Project 3.4 Advanced 4				15 ects
4	FGA4.PP-01	Personalised 1 (not for incoming exchange)	30 ects			
4	FGA4.PP2-01	Personalised 2 (not for incoming exchange)			30 ects	

YEAR 1

The first year consists of 4 project blocks focused on developing students foundation skills. The final block is a collaborative team project consisting of programmers, designers, producers and artist. All blocks consist of tightly defined projects to build your knowledge and skills and are supported by lectures and workshops.

Project 1.1 - Foundation 1- Variation (Design & Production/Visual Art/Game Programming)

- Visual Artist - **Computer Graphics Fundamentals**

The first Visual Arts project will make students become familiar with navigation within the **Maya** working environment. They will learn basic modelling and texturing tools, and how these tools affect modelling and texturing decisions. Students who successfully complete this project will be able to perform most basic tasks within Maya at a proficient level. Visual Arts students will also attend (technical) drawing workshops for the purpose of improving their visual literacy.

- Programming - **2D - Galaxians and More**

Your first project is to produce a standard version of the retro classic Galaxians, the purpose is to allow you to demonstrate your problem solving skills, demonstrate your knowledge of C++ and use of Visual Studio and provide a platform to use and learn source control systems. When you complete that project you can further expand and evolve the project with a list of features, some of which you should be willing to admit you do not know how to achieve, to allow us to guide you towards better understanding and methods of research.

- Design & Production - **Game Design**

In this project, students are tasked to create multiple instances of lo-fi prototypes demonstrating game mechanics intended to produce a given game dynamic. At the end of the project, you should be able to pitch a new game featuring this dynamic, and use your prototyping experiences to show examples of how this game would work.

Project 1.2 – Foundation 2 - Variation (Design & Production/Visual Art/Game Programming)

- Visual Artist- **DRAW!**

During the course of this block, students will be given a variety of exercises that seek to improve their observation, drawing and composition skills. These fundamental abilities constitute a skillset that any computer graphics artist should obtain, maintain and develop further throughout their career. They are a necessary means to help describe ideas, visualize abstract concepts, and/or to communicate and inform other artists and developers on the team. For this project students will only be using traditional media.

- Programming- **3D**

This block is focused on 3D math, physics and rendering. This block the goal will be to create a game (or technical demo) that has 3D graphics, 2D gameplay and is driven by physics. We will provide you with a new framework but this time you will need to retrieve the libraries the framework depends on online. In addition the framework does not include an implementation for the math library.

- Design & Production - **Making A Game Your Own**

In this project, you will take this experience and apply it in small groups to create a “Proof Of Concept” for a platform game, which will feature 3 levels of action that should stand as examples of the gameplay that a larger project would feature.

Engine: Unreal 4

Project 1.3 - Foundation 2 (Design & Production/Visual Art/Game Programming)

- Visual Art - **Animation and Tech Art Fundamentals**

This project will introduce students to computer animation fundamentals. Students will first create a rough layout and animatic. They will finally animate a tank/robot and 3D scene according to this. Part of the project will introduce students to the fundamentals of rigging and automating repeating tasks by scripting and using procedural modeling.

- Programming – **Raspberry Pi**

In block C you will be asked to produce a game framework which can then be expanded to a full game project using the Raspberry Pi as a target platform. All programmers will be asked to work on the same technical concepts for the 1st half, thereafter you will be teamed up to form coding groups to work on a more complex project where you can specialise in some of the process developed in the 1st half.

- Design & Production - **Working For Clients**

Students pitch games to client briefs, learning how to communicate ideas effectively, how to validate choices through research and rapid prototyping, and how to work within the constraints of a business environment.

*Project 1.4 - All Variations together- **Team Game Development***

Students work in cross-disciplinary teams to develop a game, practising their skills on a real project and learning how to work on a small development team.

Engine: Unreal 4

YEAR 2

Year 2 provides the opportunity for students to experiment with industry roles in a team environment. Students may also move experiment across multiple variations. However, achieving a high level of expertise requires time and commitment, not achievable if a student changes role and variation too often.

Project 2.1 - Intermediate 1 (Design & Production/Visual Art/Game Programming)

- *Design & Production*

A continuation of the role of a level designer with students developing further knowledge in level design theory and pipelines. Alongside this they develop a deeper technical knowledge of games to aide their prototyping and development skills in preparation for the rest of the year.

- *Game Programming*

Part 1: Programming students form small teams to develop an engine or a tool for an engine, enabling designers and artists to efficiently implement their ideas into a game. This project spans two blocks culminating in the opportunity to deploy the technology on a game project in the last block of the year.

- *Visual Art*

Visual Arts students focus on developing their chosen games industry role(s) covering areas such as modeling, rendering, technical (procedural, rigging, effects), animation and pre-production.

Project 2.2 - Intermediate 2

In multidisciplinary teams, students work on a series of short game development projects to develop team skills, project scoping and learning to meet project requirements for their chosen industry role.

Project 2.3 - Intermediate 3

- *Design & Production*

Choosing games industry roles such as producer, system designer, technical designer, narrative designer or level designer, audio designer, students collaborate to design and prototype a single player game.

- *Game Programming*

Part 2: Programming students form small teams to develop an engine or a tool for an engine enabling designers and artists to efficiently implement their ideas into a game. This project spans two blocks culminating in the opportunity to deploy the technology on a game project in the last block of the year.

- *Visual Art*

Visual Arts students focus on developing their chosen games industry role(s) covering areas such as modeling, rendering, technical (procedural, rigging, effects), animation and pre-production

Project 2.4 - Intermediate 4

In multidisciplinary teams, students work on a single game project developing team skills, project scoping, production pipelines and meeting project requirements. Choice of game engine and tools include any developed by the programmers in the previous blocks.

YEAR 3

Project 3.1/2/3/4 – Advanced 1/2/3/4 (Preproduction/Production/Polish/Publish)

IP from recognized game publisher who acts as the client, or a game picked up by a publisher approved for taking to publishing, or an approved incubator team.

Game type: Open

Engine: Selected

Platform: Selected

Team size: Depending on kind of game

Didactic principles

The Project Lab occupies a central place within the study programme. Each Project Lab has a focus on the development of a game and within that students define their role and development, both professionally and personally. This practical and applied approach is offered to students in all years of the study programme and trains students, to an ever increasing degree, in complex skills, and relevant professionalism.

The following didactic principles underlie the in-school training company:

1. The Project Lab is the core building block of the programme in IGAD and forms the foundation of the curriculum.
2. Every year of study, each Project Lab is worth 15 ECTS must be completed by carrying out practice-oriented assignments where students take on various roles within the Project.
3. The Project Lab groups enable students to deepen their understanding of their acquired knowledge in a simulated professional environment. In this professional simulation students are expected to behave as professional employees. This means that they are expected to be present and actively engaged in the business during office hours and to take their share of responsibility for the quality of the professional processes and/or the final product during their presence.
4. All Project groups will be assisted by a year team. The team will provide individual support to team members in the various roles on the Project.
5. The Project will also be reviewed and evaluated from the Game/Product level by the year team. This can include external parties if involved such as an industry client for example.
6. Students will be assessed on their individual contribution to one (or more) projects during a block in a Panel.
7. In case of absence due to (health) reasons, students are obliged to notify the Exchange coordinator via e-mail or a phone call, before the start of the Project Lab day. In case of severe medical issues , the student need to inform the student counselor as soon as possible.

Some examples of professional objectives IGAD

1. Competencies for Design and Production

English & Communication skills
Game-concept development
Documentation
Game / Level Design
Audio-Visual Design and Production
Narrative Design
Production Management
Quality Assurance
Knowledge Updating
Professional Presentation

2. Competencies for Programming

Artificial Intelligence programming
Tools Programming
Game Engine
Development with resource constraints
3D Engine Programming
Audio Programming
Platform specific programming
Game Play Programming
Multi-player Programming

3. Competencies for Visual Art

Graphic communication

Technical design

Visual Production Design

World Building

Advanced Modelling

Texturing

Animation

Lighting and rendering

The competencies for the other specializations are a combination of several of the above-mentioned competencies.