



# Erasmus Exchange

## Creative Media Game Technologies/IGAD

2020-21 Exchange Handbook

DISCOVER YOUR WORLD



Breda  
University  
OF APPLIED SCIENCES



# Introduction

Breda University of Applied Sciences consists of more than 7,000 students from over 100 countries. Our campus is situated in the south of the Netherlands, in the city of Breda, which is only 100 km from both Amsterdam and Brussels. Our institute, formerly known as NHTV Breda, was founded in 1966 as a provider of bachelor's courses in tourism and leisure, and in this field, it is currently the largest and leading education institute in the world. Today we offer degree programmes in the domains of Games, Media, Hotel, Facility, Logistics, Built Environment, Tourism and Leisure & Events.

## **Creative Media Game Technologies CMGT/ International Game Architecture and Design IGAD**

The professional bachelor's programme of Creative Media and Game Technologies is taught in English entirely, preparing students for careers in the international AAA gaming industry. The programme has a practical orientation and is delivered by highly qualified and international lecturers with years of experience in the industry.

The International Game Architecture and Design programme is a Project-Based Learning programme. In a simulated game studio - our Project Lab - students learn about concept development, game design, game architecture, game production, game business and marketing. In addition, students can choose from a number of workshops and lectures that match their interests and personal goals. Breda University of Applied Sciences is an official partner of Sony and is part of the PlayStation First Academic Development Programme. Furthermore, we are Houdini certified and collaborate with Ubisoft and Guerrilla Games.

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# 1 Course program: Creative Media and Game Technologies, CMGT/ IGAD

This program focuses on the Role Based Learning (RBL) system. The majority of your time (five days per week) will be spent working on projects. There are no 'traditional' classes or courses, but workshops and lectures, with guest lectures given on Wednesday to support your project work. In addition, expert groups in various subjects and roles are organized on Wednesdays so that students can deepen their knowledge/skills in various subjects and contribute to the IGAD learning community. All workshops and lectures are open for all IGAD students to join so students are free to join subjects which interest them.

Based on your prior knowledge gained at your home university you continue your study path specifically in the area of (Visual Arts, Programming or Design & Production) by choosing a role within a project and following one of these pathways. All communication and documentation at school is conducted in English. Information on the IGAD study paths can be found at [www.BUAS.nl](http://www.BUAS.nl)

Through an internal IGAD system students highlight project goals, deliver a learning journal and upload supporting project materials weekly. This learning journal consists of reflection from previous projects, project and personal goals, planning and scheduling, significant contributions on the project, a work log and highlights feedback the student has received throughout the project. The learning journal and supporting evidence provides are the main deliverable for each project and is used to assess if the student has met the criteria set in the project brief and measure how well they have achieved the intended learning outcomes for each project.

The assessment is done behind closed doors by the teaching team and students are encouraged to fill in a self-assessment in order to detail their views on their performance on each of the Intended Learning Outcomes (ILO). Students are assessed on an individual basis even when working in teams. The project lab supervisors offer continual feedback throughout the block in order to assist students in achieving their goals and meeting the requirements of the projects. Attendance is mandatory on project lab days and students will be given time for self-study activities. Every project must be passed with a sufficient grade (5.5) in order to obtain the study credits.

## 1.1 Semesters and Arrival date

At IGAD the first semester (Fall) consists of block A and B, while the second semester (Spring) consists of block C and D. Each block has eight project weeks, one assessment week and one re-assessment week.

Attending project lab day is mandatory, you cannot travel during school weeks. Being absent because of traveling, may result in failing a block.

When visiting for an exchange in the Fall semester, classes commence on the week beginning 7<sup>th</sup> September 2020. In the week prior to this (31<sup>st</sup> August-4<sup>th</sup> September 2020), an Introduction Week will be held. Due to the ongoing situation with COVID-19, detailed information on the format of the Introduction Week will be communicated at a later date.

When visiting for an exchange in the Spring semester, classes commence on the week beginning 22<sup>nd</sup> February, 2021.

### 1.1.1 What courses/project can you take

An exchange student may choose from the projects of year 1, 2 and 3 but must stay within the year they have chosen. This will be done in consultation with the BUAs Exchange coordinator.

### 1.1.2 Laptop specifications

Students must have their own laptop. Laptop specifications can be found at [www.buas.nl](http://www.buas.nl) under CMGT study costs.

### 1.1.3 Explanation of project codes

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 2020-21 might differ slightly from how they are presented below.*

### 1.1.4 Dutch Course

The course Dutch for Foreigners (course code DFF) is offered to all international BUAs degree seeking and exchange students.

## 1.2 Curriculum Overview of IGAD 2020-2021

Year	Code	Working Name	Semester:		Spring	
			Fall		Block C	Block D
1	FGA1.P1-02	Project 1.1 Foundation 1	15 ECTS			
1	FGA1.P2-02	Project 1.2 Foundation 2		15 ECTS		
1	FGA1.P3-02	Project 1.3 Foundation 3			15 ECTS	
1	FGA1.P4-02	Project 1.4 Foundation 4				15 ECTS
2	FGA2.P1-02	Project 2.1 Exploration 1	15 ECTS			
2	FGA2.P2-02	Project 2.2 Exploration 2		15 ECTS		
2	FGA2.P3-02	Project 2.3 Exploration 3			15 ECTS	
2	FGA2.P4-02	Project 2.4 Exploration 4				15 ECTS
3	FGA3.P1-02	Project 3.1 Collaboration 1	15 ECTS			
3	FGA3.P2-02	Project 3.2 Collaboration 2		15 ECTS		
3	FGA3.P3-02	Project 3.3 Collaboration 3			15 ECTS	
3	FGA3.P4-02	Project 3.4 Collaboration 4				15 ECTS

## 1.3 Courses/Projects

### 1.3.1 Year 1 - Foundation

The first year consists of 4 project blocks focused on developing student's foundational skills. The final block is a collaborative team project consisting of programmers, designers, producers and artists. 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 enable students to become familiar with navigation within the **Maya** working environment. Students 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 Namco 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 the 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. During 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 modelling.

- 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

## 1.3.2 Year 2 - Exploration

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

### *Project 2.1 - Exploration 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 modelling, rendering, technical (procedural, rigging, effects), animation and pre-production.

### *Project 2.2 - Exploration 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 - Exploration 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 modelling, 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.

### **1.3.3 Year 3 - Collaboration**

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

Intellectual Property (IP) from a 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: Dependent on type of game



## Appendix 1 – Didactic Principles

The Project Lab occupies a central position within the study programme. Each Project Lab has a focus on the development of a project or 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.
7. In case of absence due to (health) reasons, students are obliged to notify the Student coach 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.



Games



Media



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