

# De La Salle-College of Saint Benilde

Bachelor of Science in Interactive Entertainment and Multimedia Computing

## Program Specification

<b>Awarding Institution</b>	<b>De La Salle-College of Saint Benilde</b>
School	School of Management and Information Technology
Program Accreditation	Commission on Higher Education (CHED) Government Recognition No. 013, Series of 2015.
Name of Final Award	Bachelor of Science in Interactive Entertainment and Multimedia Computing major in Game Development and major in Game Art (BS-IEMC)
Program Title	Bachelor of Science in Interactive Entertainment and Multimedia Computing major in Game Development and major in Game Art (BS-IEMC)
Description of the Program	<p>The <b>Bachelor of Science in Interactive Entertainment and Multimedia Computing</b> Program is a discipline that covers that totality of the ideation, the design, the art, the technical implementation, the manage and the business of Interactive Software Projects geared towards entertainment, simulations and solutions through the use of Video Game Technologies and Tools.</p> <p>The <b>Game Development Track</b> focuses on the technical aspect of Video Game Creation. Focused on heavy foundational development on computer programming and the use of industry grade game engine software to develop various video game projects geared towards different platforms from covering PC, Mobile, Virtual Reality and Augmented Reality.</p> <p>The <b>Game Art Track</b> focuses on the aesthetic (visual) aspect of Video Game Creation. Focused heavily on the development of various visual assets used in video games, through the use of industry grade tools to develop 2D Art, Pixel Art, 3D Assets, Textures and Special FX that can be seen and experienced through a Video Game.</p>

## Expected Program Learning Outcomes

Upon completion of the **BACHELOR OF SCIENCE IN INTERACTIVE ENTERTAINMENT AND MULTIMEDIA COMPUTING**, students are expected to:

- PO1. Apply game design concepts and mechanics through the use of art, methods, and processes to create interactive applications.
- PO2. Create interactive entertainment applications and / or assets to meet target player expectations using development tools.
- PO3. Execute a game development project effectively and efficiently to optimize the production process by applying guided project management tools while adapting professional, ethical and legal best practices.

## Admission Requirements

All students must pass the **Benildean Entrance Exam (BEE)**. The information regarding application, admission timetable, and application results may be viewed at **Benilde Admissions Center**. Downloadable forms and school brochures are available from this site.

Applicants applying to any degree or non-degree program offered by DLS-CSB are expected to provide a complete medical disclosure of past or present conditions that may have an effect on student learning and their intention to be a member of the Benildean community.

As an additional requirement for the program, all applicants will be required to undergo an interview process with senior faculty members of the BSIEMC and take a "grit test".

## Program Overview

The Program consists of 196.5 units distributed as follows:

	<b>Units</b>
CHED GE Mandated Courses	<b>53</b>
DLS-CSB Institutional Courses	<b>19</b>
Common Computing Courses	<b>19.5</b>
IEMC Common Core Courses	<b>27</b>
IEMC Professional Courses	<b>27</b>
GDD Professional Courses	<b>24</b>
Free Electives	<b>9</b>
Capstone Project	<b>9</b>
Practicum	<b>9</b>

<p><b>Curriculum and Program Structure</b></p>	<p>The curriculum and program structure are outlined in the program checklist. The curriculum map shows the alignment between the courses in the program and the program goals.</p>
<p><b>Teaching and Learning Strategy, Assessment</b></p>	<p>DLS-CSB espouses and promotes learner-centered parameters. A balance of theory and practice is achieved through lecture courses combined with laboratory courses/sessions and application sites such as the teaching hotel, training restaurants and training travel agency unit.</p> <p>Various assessment strategies are used such as class discussion, written and oral examinations, return demonstration, journal submission, reflective essay, assignment, seatwork, case study analysis, portfolio submission, final project and individual/group report.</p>
<p><b>Date of Revision</b></p>	<p>AY 2018-2019</p>

# PROGRAM CHECKLIST

## Game Development Track

### Term 1

Course Code	Course Title	Units	Pre-requisite	Co-requisite
BIBCHUR	Bible and Church	3		
ARTAPRI	Art Appreciation	3		
FUNCOM1	Computer Fundamentals 1	3		
UNDESELF	Understanding the Self	3		
MATWRLD	Mathematics in the Modern World	3		
ITETHICS	Critical and Creative Thinking	3		
PEONEPF	Physical Fitness	2		
CSBLIFE	College of Saint Benilde Student Life	(3)		

### Term 2

Course Code	Course Title	Units	Pre-requisite	Co-requisite
PURPCOM	Purposive Communication	3		
INTEFIL	Interaktibong Filipino sa Multidisiplinaryong Larangan	3		
GAMDRAW	Freehand and Digital Drawing	3		
FUNCOM2	Computer Fundamentals 2	3		
BASPRG1	Basic Programming 1	4.5		
SCITECH	Science Technology and Society	3		
PETWODA	Dance	2	PEONEPF	
NSTP-01	National Service Training Program 1	(3)		

### Term 3

Course Code	Course Title	Units	Pre-requisite	Co-requisite
REEXSPI	Religious Experience and Spirituality	3		
STSCRPT	Storyboarding and Scriptwriting for Games	3		
GM2DBAS	Principles of 2D Animation for Game Developers	3	GAMDRAW	
GDEV DAT	Databases for Game Developers	3		
BASPRG2	Basic Programming 2	3	BASPRG1	
APLTRIG	Applied Trigonometry for Game Developers	3		
PEFORTS	Team Sports	2	PETWODA	
NSTP-02	National Service Training Program 2	(3)	NSTP-01	

### Term 4

Course Code	Course Title	Units	Pre-requisite	Co-requisite
CRITHNK	Critical and Creative Thinking	3		
GDSTRUC	Data Structures and Algorithm	3	BASPRG1	
GM3DBAS	Principles of 3D Animation for Game Developers	3		
GAMSTDY	Introduction to Game Design and Development	3		
BASPRG3	Basic Programming 3	3	BASPRG2	
AUDSOND	Audio and Sound Design	3		
PETRIID	Team Sports Individual / Dual Sports	2	PEFORTS	

### Term 5

Course Code	Course Title	Units	Pre-requisite	Co-requisite
FILDISI	Filipino sa Iba't Ibang Disiplina	3		
GDEVMAT	Game Development Math	3		
ANDGPRG	Android Game Programming	3		
GAMMECH	Game Mechanics	3	GAMSTDY	
GRAPROG	Advanced Graphics Programming	3	BASPRG3	
GMELEC1	GDD Elective 1	3		
CONWORL	Contemporary World	3		

### Term 6

Course Code	Course Title	Units	Pre-requisite	Co-requisite
WORLMYT	World Mythology	3		
GMDEVAI	Artificial Intelligence in Games	3		
IOSGPRG	IOS Game Programming	3		
USEREXP	User Interfaces and User Experience	3	GAMMECH	
GDEVPHY	Game Development Physics	3		
GAMPRG1	Game Programming 1	3	BASPRG2	

### Term 7

Course Code	Course Title	Units	Pre-requisite	Co-requisite
WORLMYT	World Mythology	3		
GCMREN	Compositing and Rendering	3		
TEXTMAP	Texture Mapping	3		
USEREXP	User Interfaces and User Experience	3	USEREXP	
GM3DADV	Advanced 3D for Game Developers	3		
LIGHTFX	Lighting and Effects	3	GAMPRG1	

### Term 8

Course Code	Course Title	Units	Pre-requisite	Co-requisite
MARFAMI	Marriage and Family Life	3		
GMELEC2	GDD Elective 2	3	DESPROC	
GAMPROD	Game Production	3		
JORIZAL	Life and Works of Rizal	3	GAMPRG1, DESPROC	
CAPSTN1	Capstone Project 1	3	GAMPRG2	
GAMPRG3	Game Programming 3	3		

### Term 9

Course Code	Course Title	Units	Pre-requisite	Co-requisite
GMETHIC	Ethical Issues and Leadership in the Game Industry	3		
GMELEC3	GDD Elective 3	3	GAMPROD	
QASSURE	Quality Assurance for Games	3		
GAMEBIZ	Game Business Entrepreneurship	3	CAPSTN1	
CAPSTN2	Capstone Project 2	3		
READHIS	Readings in Philippine History	3	CSBLIFE	
CSBGRAD	College of Saint Benilde Graduating Students	(1)		

### Term 10

Course Code	Course Title	Units	Pre-requisite	Co-requisite
GMPRACT	On-the Job Training	9		
CAPSTN3	Capstone Project 3	3	CAPSTN2	

# PROGRAM CHECKLIST

## Game Art Track

### Term 1

Course Code	Course Title	Units	Pre-requisite	Co-requisite
BIBCHUR	Bible and Church	3		
ARTAPRI	Art Appreciation	3		
UNDESELF	Understanding the Self	3		
FUNCOM1	Computer Fundamentals 1	3		
IETHICS	Ethics	3		
MATWRLD	Mathematics in the Modern World	3		
PEONEPF	Physical Fitness	2		
CSBLIFE	College of Saint Benilde Student Life	(3)		

### Term 2

Course Code	Course Title	Units	Pre-requisite	Co-requisite
PURPCOM	Purposive Communication	3		
INTEFIL	Interaktibong Filipino sa Multidisiplinaryong Larangan	3		
GAMDRAW	Freehand and Digital Drawing	3		
FUNCOM2	Computer Fundamentals 2	3		
BASPRG1	Basic Programming 2	4.5		
SCITECH	Science Technology and Society	3		
PETWODA	Dance	2	PEONEPF	
NSTP-01	National Training Service Program 1	(3)		

### Term 3

Course Code	Course Title	Units	Pre-requisite	Co-requisite
REEXSPI	Religious Experience and Spirituality	3		
STSCRPT	Storyboarding and Scriptwriting for Games	3		
GM2DBAS	Principles of 2D Animation for game Developers	3	GAMDRAW	
GDEV DAT	Databases for Game Developers	3		
BASPRG2	Basic Programming 2	3	BASPRG1	
APLTRIG	Applied Trigonometry for Game Developers	3		
PEFORTS	Team Sports	2	PETWODA	
NSTP-02	National Service Training Program 2	(3)	NSTP-01	

### Term 4

Course Code	Course Title	Units	Pre-requisite	Co-requisite
CRITHNK	Critical and Creative Thinking	3		
GDSTRUC	Data Structures and Algorithms	3	BASPRG1	
GM3DBAS	Principles of 3D Animation for Game Developers	3		
GAMSTDY	Introduction to the Game Design and Development	3		
BASPRG3	Basic Programming 3	3	BASPRG2	
AUDSOND	Audio and Sound Design	3		
PETRIID	Team Sports Individual / Dual Sports	2	PEFORTS	

### Term 5

Course Code	Course Title	Units	Pre-requisite	Co-requisite
FILDISI	Filipino sa Iba't Ibang Disiplina	3		
IMGPROC	Image and Video Processing	3		
DIGIDRW	Advanced Topics on Digital Drawing	3		
GAMMECH	Game Mechanics	3	GAMSTDY	
GM2DADV	Advanced 2D for Game Developers	3		
GMELEC1	Game Elective 1	3		
CONWORL	Contemporary World	3		

### Term 6

Course Code	Course Title	Units	Pre-requisite	Co-requisite
WORLMYT	World Mythology	3		
GCMREN	Compositing and Rendering	3		
TEXTMAP	Texture Mapping	3		
USEREXP	User Interfaces and User Experience	3	GAMMECH	
GM3DADV	Advanced 3D for Game Developers	3		
LIGHTFX	Lighting and Effects	3		



### Term 7

Course Code	Course Title	Units	Pre-requisite	Co-requisite
ASEANST	ASEAN Studies	3		
CONCART	Concept Art	3		
DESPROC	Design and Production Process	3	GAMSTDY	
LEVLART	Level Art	3	USEREXP	
MODLRIG	Modelling and Rigging	3		
ADSOUND	Advanced Sound Production	3	ADSOUND	

### Term 8

Course Code	Course Title	Units	Pre-requisite	Co-requisite
MARFAMI	Marriage and Family Life	3		
GMELEC2	GDD Elective 2	3		
ANIPROD	Animation and Design Production	3	DESPROC	
JORIZAL	Life and Works of Rizal	3		
CAPSTN1	Capstone Project 1	3	DESPROC	
SCULPTZ	Digital Sculpting	3		

### Term 9

Course Code	Course Title	Units	Pre-requisite	Co-requisite
GMETHIC	Ethical Issues and Leadership in the Game Industry	3		
GMELEC3	Game Elective 3	3	ANIPROD	
QASSURE	Quality Assurance for Games	3		
GAMEBIZ	Game Business	3	GM3DADV,	
CAPSTN2	Capstone Project 2	3	CAPSTN1	
READHIS	Readings in the Philippine History	3		
CSBGRAD	College of Saint Benilde Graduating Students	(1)	CSBLIFE	

### Term 10

Course Code	Course Title	Units	Pre-requisite	Co-requisite
GMPRACT	On-the-Job Training	9		
CASPTN3	Capstone Project 3	3	CAPSTN2	

## ELECTIVES

Course Code	Course Title	Units	Pre-requisite	Co-requisite
ADVCART	Advance Concept Art	3		
GAMEENG	Game Engine Programming	3		
AZCULPT	Human Anatomy Digital Sculpting	3		
GAMANAT	Advanced Anatomy	3		
SHADEFX	Shader Effects in Unreal and Unity	3		
STYLVFX	Stylized Visual Effects	3		
GDSYNTH	Game Design Synthesis	3		

# CURRICULUM MAP

## Bachelor of Science in Interactive Entertainment and Multimedia Computing

	Common Computing Courses	PO1	PO2	PO3
1	Computer Fundamentals 1	✓		
2	Computer Fundamentals 2		✓	
3	Basic Programming 1		✓	
4	Basic Programming 2		✓	
5	Databases for Game Developers	✓		
6	Data Structures and Algorithms	✓	✓	

	IEMC Common Core Courses	PO1	PO2	PO3
1	Freehand and Digital Drawing	✓	✓	
2	Principles of 2D Animation for Game Developers	✓	✓	
3	Storyboarding and Scriptwriting for Games	✓	✓	✓
4	Principles of 3D Animation for Game Developers	✓	✓	
5	Introduction to Game Design and Development	✓		✓
6	Basic Programming 3		✓	
7	Audio and Sound Design	✓	✓	
8	User Interfaces and User Experience	✓	✓	
9	Design and Production Process	✓	✓	✓

	IEMC-Game Dev Professional Courses	PO1	PO2	PO3
1	Game Development Math		✓	
2	Game Mechanics		✓	
3	Artificial Intelligence in Games		✓	
4	Game Development Physics		✓	
5	Game Programming 1	✓	✓	
6	Game Programming 2	✓	✓	
7	Game Programming 3	✓	✓	
8	Advanced Game Networking		✓	
9	Game Production	✓	✓	

	IEMC-Game Art Professional Courses	PO1	PO2	PO3
1	Image and Video Processing		✓	
2	Advanced 2D for Game Developers	✓	✓	
3	Compositing and Rendering		✓	

4	Advanced 3D for Game Developers	✓	✓	
5	Texture Mapping		✓	
6	Lighting and Effects		✓	
7	Modeling and Rigging	✓	✓	
8	Advanced Sound Production	✓	✓	
9	Animation and Design Production	✓	✓	✓

<b>GDD-Game Dev Professional Courses</b>		<b>PO1</b>	<b>PO2</b>	<b>PO3</b>
1	Android Game Programming	✓	✓	
2	IOS Game Programming	✓	✓	
3	Advanced Graphics Programming		✓	
4	Web Game Programming	✓	✓	
5	Level Design	✓	✓	✓
6	Ethical Issues and Leadership in the Game Industry			✓
7	Quality Assurance for Games	✓		✓
8	Game Business Entrepreneurship	✓		✓

<b>GDD-Game Art Professional Courses</b>		<b>PO1</b>	<b>PO2</b>	<b>PO3</b>
1	Advanced Topics on Digital Drawing		✓	
2	Game Mechanics		✓	
3	Concept Art	✓	✓	
4	Level Art	✓	✓	
5	Digital Sculpting	✓	✓	
6	Ethical Issues and Leadership in the Game Industry			✓
7	Quality Assurance for Games	✓		✓
8	Game Business Entrepreneurship	✓		✓

<b>Capstone and Practicum</b>		<b>PO1</b>	<b>PO2</b>	<b>PO3</b>
1	Capstone Project 1	✓	✓	✓
2	Capstone Project 1	✓	✓	✓
3	Capstone Project 1	✓	✓	✓
4	On-the-job Training	✓	✓	✓

Elective Courses		PO1	PO2	PO3
<b>Programming Elective</b>				
1	Game Engine	✓	✓	
2	Shader Effects in Unreal and Unity	✓	✓	✓
<b>Art Elective</b>				
1	Advance Concept Art	✓	✓	
2	Human anatomy Digital Sculpting	✓	✓	
3	Advanced Anatomy	✓	✓	
4	Stylized Visual Effects	✓	✓	✓
<b>Design Elective</b>				
1	Game Design Synthesis	✓	✓	✓