

Course Code CSG4010	HTML 5 Game Development	Course Type	LT
		Credits	3
Course Objectives: <ul style="list-style-type: none"><li>To learn the basics of web game development from scratch</li><li>To expose the salient techniques to render the games for mobile platforms and web browsers</li><li>Focus on modern game platforms, differences, evolution, and limitations, on game programming</li><li>Identify best practices for game development in browsers</li></ul>			
Course Outcomes:			
The students who complete the course will be able to: <ul style="list-style-type: none"><li>Create a static web page in HTML and CSS.</li><li>Add functionalities to page elements.</li><li>Create a basic game using JavaScript libraries.</li><li>Integrate physics to <b>easily</b> in Web based Games</li><li>Create <b>platform games</b>, <b>puzzle</b> and <b>card</b> games.</li><li>Deploy games on multiple platforms.</li></ul>			
Student Outcomes (SO):		a, b, e, l	
Mod no.	Module Description	Lecture hrs	SO
1	<b>Fundamentals of HTML and HTML 5</b> , benefits of HTML5, difference between HTML and HTML5 elements, tags, canvas, audio-video, input types, semantic, web storage, media, CSS, introduction, borders, background, fonts, 2D-3D transforms, transition, animation.	8	a, b, e, l
2	Javascript fundamentals, variables, constants, loops, operators, functions, objects-classes, game programming with HTML5 basic concepts of HTML5 game development, HTML 5 game engines, time-based animations, sprite-based animation game states, music, and sound effects.	9	a, b, e, l
3	<b>Maths</b> , Paths: Curves, Followers, Path Editors, <b>Physics</b> ; Collisions, Actions, Arcade, Impact, Matter.js, Animation. Game Objects: <b>Images</b> , Lights, mesh, shaders, shapes, particle emitter, texts, sprites, Tile Spirits, Tile map, Video, Render Texture etc.	9	a, b, e, l
4	<b>Inputs</b> : Camera, Cursors, Dragging, mouse, Keyboard, Zones, pointer, Game objects etc.; <b>Loader</b> ; <b>Transform</b> : Position, Rotation, Flip.; Audio: HTML5 audio; <b>Camera</b>	9	a, b, e, l
5	<b>Textures</b> ; Time: events, Start at, Pause and Resume, Looped events, etc; Time Stamps; <b>Game events</b> ; Controls, batch movement, image changes; <b>Plugins &amp; API</b> : Scenes: Tutorial, Add scene after the game, Changing scene;	9	a, b, e, l
	<b>Guest Lecture on Contemporary Topics</b>	2	
	<b>Total Lecture Hours:</b>	45	

**Mode of Teaching and Learning:**

Flipped Class Room, Activity-Based Teaching/Learning, Digital/Computer-based models, wherever possible to augment lecture for practice/tutorial and minimum 2 hours lecture by industry experts on contemporary topics

**Mode of Evaluation:**

The assessment and evaluation components may consist of unannounced open book examinations, quizzes, student's portfolio generation, and assessment, and any other innovative assessment practices followed by faculty, in addition to the Continuous Assessment Tests and Term End Examination.

**Text Book(s):**

1. Brian P.Hogan, "HTML5 and CSS3", Pragmatic Programmers. 2011
2. James L. Williams, "Learning HTML5 Game Programming", Addison-Wesley Professional, 2011.

**Reference Books:**

1. Jesse Freeman, "Introducing HTML5 Game Development", O'Reilly Media, Inc, 2012.
2. Makzan Makzan, "HTML5 Games Development", Packt Publishing, 2011.

**Recommendation by the Board of Studies on****25 June 2020**

Approval by Academic council on

29.06.2020

Compiled by

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