COURSE CONTENT

Course Code	DT2010
Course Title	Digital Compositing
Pre-requisites	NIL
No of AUs	3
Contact Hours	39 Contact Hours

Course Aims

This course will introduce you to processes and techniques of digital compositing, which you will then apply in the creation of original composites, such as integrating various image sources into one seamless output. This learning forms the foundation for further studies in visual effects and CG animation.

Intended Learning Outcomes (ILO)

By the end of the course, you should be able to:

1. Identify and discuss techniques used in the compositing practice.
2. Demonstrate fundamental techniques required to create composites.
3. Apply compositing techniques and aesthetic considerations to create original composites.
4. Discuss and present work in a variety of image composite stages with instructor in a clear and cohesive manner.
5. Critique digital compositing techniques and solutions employed by peers in a constructive manner

Course Content

The role of Compositing
Compositing is both the technical and artistic challenge of combining different image sources such as live-action footage, matte-paintings and rendered CG elements into one seamless new output. Digital Compositing plays a key role in visual effects, and it is essential to feature films, commercials, TV shows and animated films. Even non-effect films utilize compositing as the invisible art of image manipulation. The course will deliver a practice-based introduction to the basic techniques of compositing and its place within the production process.

Node-Based Compositing
In contrast to the layer-based compositing, which centres on timing, a node-based workflow with an easy to read flow diagram of all processing operations, becomes essential when working on complex composites. This course will introduce both concepts but focuses on node-based workflows.

Compositing Techniques
Through practice-based exercises and project assignments, you will learn basic and advanced compositing techniques such as layering and blend modes, colour correction, rotoscoping, tracking, warping, chroma keying and CGI compositing.

Artistic Considerations

What makes a good composite? Through analysis of a variety of examples from film and animation, you will develop a sense of creative considerations and their role in creating a successful composite.

Class assignments

Creative projects, which explore fundamental compositing techniques. Developed through lectures, tutorials, class exercises and peer/instructor feedback sessions.

Assessment (includes both continuous and summative assessment)

Component	ILO Tested	Programme LO	Weighting	Team/ Individual
Continuous Assessment Compositing Projects 1-4	1,2,3	--	40	Individual
Final Project: Short film or sequence with composited elements	1,2,3,4	--	40	Team / Individual
Continuous Assessment: Participation	5	--	20	Individual
Total			100%	

Reading and References

1. Ron Brinkmann, *The Art and Science of Digital Compositing*, Morgan Kaufmann
2. Steve Wright, *Compositing Visual Effects: Essentials for the Aspiring Artist*, Focal Press
3. Blain Brown, *Cinematography: Theory and Practice: Image Making for Cinematographers, Directors, and Videographers*, Focal Press
4. Steve Wright, *Digital Compositing for Film and Video*, Focal Press
5. Jeremy Hanke, *Greenscreen Made Easy: Keying and Compositing Techniques for Indie Filmmakers*, Michael Wiese Productions

Course Policies and Student Responsibilities

(1) General

You are expected to complete all assigned readings, activities, assignments, attend all classes punctually and complete all scheduled assignments by due dates. You are expected to take responsibility to follow up with assignments and course related announcements. You are expected to participate in all project critiques, class discussions and activities.

(2) Punctuality

You are expected to be punctual for all classes. If you are more than 30 minutes late, you will be

deemed as absent and will not be able to sign on the attendance register.

(3) Absenteeism

In-class activities make up a significant portion of your course grade. Absence from class without a valid reason will affect your participation grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities.

Academic Integrity

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Planned Weekly Schedule*

*Subjected to adjustment by instructor according to students' progress, public holidays and unforeseeable circumstances.

Week	Topic	Course LO	Readings/ Activities
1	• **Introduction to Compositing** Overview of key concepts and composting techniques. Through analysis of examples, learn to identify, which compositing techniques have been applied. Introduction to layer-based and node-based compositing.	1,2, 3, 5	**Introductory lecture** **In-class discussion and analysis** of compositing examples **In-class exercise:** Creating a first node-based composite **Assigned project 1:** Familiarize with concept of node-based compositing. Create a first still frame composite

2-3	• **Fundamentals of Compositing** Introduction to core competencies required in node-based compositing. Students will learn basic techniques to create sequential composites.	1,2, 3, 5	**Lectures on: Matting and animation techniques** **In-class exercises:** Practice of basic techniques **Project critique and feedback** on in-class exercises and assigned projects **Assigned project 2:** Expand your skills of node-based compositing and create a sequential composite
4-8	• **Basic Practices** Applying expanded core competencies to enable students to create sequential composites from various sources. An investigation of the role of colour correction in compositing. • **Aesthetic considerations** Through analysis of examples, students will develop a sense, which attributes contribute to a successful composite.	1, 2, 3, 5	**Lectures on:** - **Colour Correction** - **Tracking and Warping** - **Aesthetic considerations** **In-class exercises:** Further practice of basic techniques such as tracking to create a composite with moving camera footage **In-class discussion and analysis** of compositing examples to investigate aesthetic considerations **Assigned project 3a:** Creating a sequential composite from moving camera footage and tracked isolated object **Assigned project 3b:** Expanding the sequential composite to blend sources seamlessly **Project critique and feedback** on in-class exercises and assigned projects **Student presentations** on assigned projects
9-13	• **Exploring Advanced Techniques** In-depth exploration of strategies to create composites utilising advanced techniques. Students will conduct a green screen shooting exercise. This will familiarize students with the processes involved in the acquisition of high-quality green screen camera footage. • **Continuous review of final assignment through various stages of completion** Throughout the last weeks of the semester, the final project will be subject to review through its various	1, 2, 3, 4, 5	**Lectures on:** - **Green screen shooting** - **Chroma keying** - **CGI compositing** **In-class exercise:** Shooting high quality green screen footage in studio environment**.** Practice of Chroma Keying **Assigned project 4:** Create a seamless integrated composite with green screen footage **Project critique and feedback** on in-class exercises and assigned projects **Project consultation** and continuous review, assessment and feedback throughout production of final project **Final project:** Live-action short film or

	stages of completion. This will be carried out in class presentations by students and will allow for a peer-review-based examination of the works in progress. In this highly interactive process, you will learn through and from the work of your peers and the advice offered by the lecturer.		sequence demonstrating core competencies, technical skills and aesthetic considerations **Student Presentations** on final project with critique and feedback