

COURSE CONTENT

Course Code	DT3010
Course Title	Visual Effects I
Pre-requisites	DT2001 3D Production or DT2010 Digital Compositing or DF2000 Digital Film Production I or DF2003 Cinematography I
No of AUs	3
Contact Hours	39 hours studio contact

Course Aims

This course will introduce you to the processes and techniques of visual effects, which you will then apply in the creation of original visual effects shots, such as integrating elements from various sources to one seamless output. This learning forms the foundation for further studies in visual effects, computer graphic animation and filmmaking.

Intended Learning Outcomes (ILO)

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

1. Identify and discuss techniques used in visual effects practice.
2. Demonstrate fundamental techniques required to create visual effects.
3. Apply techniques and aesthetic considerations to create original visual effects composites.
4. Present, discuss and evaluate original visual effects compositions clearly and effectively.
5. Contribute to discussion and critique of techniques used to meet visual effects requirements.

Course Content

The role of Visual Effects

Visual effects (VFX) are an essential tool in the filmmaker's arsenal enabling us to create imagery which would otherwise be impossible to acquire. With VFX, you will strive to create believable imagery which integrates seamlessly into live-action film. Visual Effects are both the technical and artistic challenge of designing and creating realistic cinematic effects, most commonly by manipulating and combining various image sources such as live-action footage, matte-paintings, green screen elements and rendered CG animation into one seamless and new output. The integration of VFX in live-action film requires a good understanding of filmmaking and the cinematic language, and the best VFX are created by a collaborating team of talents from multiple disciplines, from cinematography and filmmaking to 3D animation and digital compositing.

The practice of creating Visual Effects

In this course you will explore a practice-based introduction to the basic techniques of VFX and its place within the film production process. You will shoot with various digital cameras to acquire live-action footage using greenscreen studio elements and motion control footage. Through practice-based exercises and project assignments, you will learn basic techniques such as chroma keying, camera tracking and the creation of seamless composites.

The history of Visual Effects

The course will deliver an introduction to the history of Visual Effects and discuss the various achievements and milestones in the history of filmmaking.

Class assignments

Creative projects, which explore fundamental Visual Effects related techniques. These are 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 VFX Projects 1-4	1,2,3	N.A.	40	Individual
Final Project: Short film or sequence with VFX elements	1,2,3,4	N.A.	40	Team / Individual
Continuous Assessment: Participation	5	N.A.	20	Individual
Total			100%	

Reading and References

1. Brinkmann, Ron. *The art and science of digital compositing: Techniques for visual effects, animation and motion graphics*. Morgan Kaufmann, 2008.
2. Brown, Blain. *Cinematography: theory and practice: image making for cinematographers and directors*. Focal Press, 2016.
3. Byrne, Bill. *The visual effects arsenal: VFX solutions for the independent filmmaker*. Focal Press, 2012.
4. Dinur, Eran. *The Filmmaker's Guide to Visual Effects: The Art and Techniques of VFX for Directors, Producers, Editors and Cinematographers*. Focal Press, 2017.
5. Hanke, Jeremy, and Michele Yamazaki. *Greenscreen made easy*. Michael Wiese Productions, 2011.
6. Thompson, Roy, and Christopher Bowen. *Grammar of the Shot*. Taylor & Francis, 2009.
7. Wright, Steve. *Compositing visual effects: Essentials for the aspiring artist*. Focal Press, 2013.

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.

Wee k	Topic	Course LO	Readings/ Activities
1	Introduction to Visual Effects Overview of key concepts and VFX techniques. Through analysis of examples, learn to identify, which techniques have been applied.	1,2,3,5	Introductory lecture In-class discussion and analysis of Visual Effects examples In-class exercise: Creating a VFX shot using prepared assets
2	Introduction to creating a basic VFX shot.	1,2,3,5	Assigned project 1: Create your first VFX shot

3-4	<p>Fundamentals of Visual Effects Introduction to core competencies required in the creation of VFX. Students will learn basic techniques to create a seamless VFX composite.</p>	1,2, 3, 5	<p>Lectures on: Integration 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 and create a seamless VFX composite</p>
5	<p>History of VFX Lecture and discussion of VFX milestones Studio practice</p>	1,2,3,5	<p>Lectures on History of Visual Effects Studio work on Assignment 2</p>
6-8	<p>Basic Practices Applying expanded core competencies to enable students to plan and produce VFX shots by combining various sources such as green screen elements with live action footage. Investigation of issues related to VFX in the context of moving camera shots. 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. Aesthetic considerations Through the analysis of examples, students will develop a sense of which attributes contribute to a successful VFX composite.</p>	1, 2, 3, 5	<p>Lectures on:</p> <ul style="list-style-type: none"> - Green screen shooting - Chroma keying - Aesthetic considerations <p>In-class exercises: Further practice of basic techniques such as: Shooting high quality green screen footage in a studio environment. Practice of Chroma Keying. Tracking to create a composite with moving camera footage. In-class discussion and analysis of VFX examples to investigate aesthetic considerations Assigned project 3: Creating a VFX shot with various sources such as green screen Assigned project 4: Creating a VFX shot with moving camera footage Project critique and feedback on in-class exercises and assigned projects Student presentations on assigned projects</p>
9-12	<p>Exploring Advanced Techniques Exploration of strategies to create VFX utilising advanced techniques such as motion control camera rigs and CGI integration. 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 stages of completion. This will be carried out in class presentations by</p>	1, 2, 3, 4, 5	<p>Lectures and demonstrations on:</p> <ul style="list-style-type: none"> - Motion Control techniques - VFX and CG animation workflow <p>In-class exercises: Creating an advanced VFX shot with a motion control camera and/or CGI integration. Assigned project 5: Create a VFX shot utilising the motion control camera and/or CGI integration. Project critique and feedback on in-class exercises and assigned projects Project consultation and continuous</p>

	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.		review, assessment and feedback throughout production of final project Final project: Live-action short film or sequence demonstrating core competencies, technical skills and aesthetic considerations
13	Final presentations and critique	1, 2, 3, 4, 5	Student Presentations on final project with critique and feedback