



STUDY PROGRAMME

3D Digital Artist

Class 2022

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Introduction

Welcome to the study programme for the 3D Digital Artist education.

Computer Generated Imagery (from now on CGI), Visual Effects (from now on VFX) and 3D are subject fields in constant development which require skilled professionals. The field is rapidly expanding, and the demand for CGI professionals with various skills is ever increasing.

CGI is today one of the most widely used techniques in industries such as advertising, architecture, game design, film production and graphic & industrial design, and is becoming more and more accepted as a functional alternative to photography and 2D graphics. This means that CGI and 3D productions are becoming more and more visible in everyday life, and consumers expect an ever-increasing level of complexity in the imagery and effects. As a result, the tools for CGI and 3D are under constant development and the demands set by the industry upon CGI and 3D artists, are continuously raising the bar for what is to come.

Truemax Academy strives to be at the forefront of the development, educating 3D Digital Artists who will take an active part in developing the field of CGI and 3D in new and exciting directions. The students at Truemax Academy will constantly be challenged both on a personal and a professional level, as it is the philosophy of Truemax Academy that only by pushing the students towards new and difficult challenges, they will realize their full potential. A true 3D Digital Artist never stops learning, and an education at Truemax Academy is the first step on a long and exiting road.

Name of education and title of graduates

The name of the education is '3D Digital Artist' abbreviated to 3DDA.

A graduate from Truemax Academy has the right to be titled '3D Digital Artist'. Upon graduation, the students will receive a diploma from Truemax Academy with all individual grades from all exams, both when given based on the 7-scale and as passed/failed.

Authority

The 3D Digital Artist is offered by CADA Truemax, a private education provider operating in Denmark. As a private education provider, CADA Truemax is not eligible for accreditation in Denmark, and the 3DDA degree is therefore not awarding a degree that is officially recognized in Denmark.

The 3DDA education, however, has been approved by The Danish students' Grants and Loans Scheme (SU) and has been level assessed by the Danish Accreditation Institution under the Ministry of Higher Education and Science, and has been placed at level 6, the same level as a bachelor's degree.

At CADA Truemax we continuously put a large effort into quality assuring the education to provide the highest level of education possible. This includes systematic involvement of leading production houses, industry professionals, collaboration with international educational institutions and research centres as well as a rigorous evaluation policy.

Programme objective

The programme objective of the 3DDA education is to give the student the qualifications to achieve relevant employment in the digital visual industries (DVI) immediately after graduation.

The objective is achieved by:

- Giving the student a theoretical understanding of the creative, artistic, and technical processes within production of 3D based visual products.
- Giving the student a practice-oriented methodical understanding within development, planning and production of 3D based visual products.
- Giving the student a solid grounding for continuous development of their artistic talent, thereby enhancing their value in the work field.
- Strengthening the student's ability to innovate through multidisciplinary collaborations.

The programme objective of the 3DDA education is to develop and offer a long-term education programme that meets the demands of the industry for properly trained employees, both now and in the future. The unique education at CADA Truemax is under constant development in close cooperation with representatives from the industry to ensure the highest possible standards. It is the ambition of CADA Truemax that our graduates will be not only a workforce, but also a contributing part of the continued growth and development of the Danish visual industries.

Admission to the 3D Digital Artist education

Applicant requirements

To be accepted to Truemax Academy, the applicants must have completed a youth education and speak/understand English (B level).

Applicants send in a motivated application and a portfolio, after which the school assesses, whether they can be admitted.

Acceptance to 3DDA requires a completed youth education, STX, HTX, HF, technical school, or the equivalent. Basic knowledge of either 3D / CGI / animation / computer games / digital image processing techniques / programming.

Presentation of a portfolio supporting the above qualifications which includes works showing the applicants' artistic and technical skills.

Applicants are also recommended to have good collaborative skills and experience with group work.

Applicants also need to write a motivated application.

Application procedure

Applicants fill out a form on www.truemax.com.

They insert a link to their portfolio (Vimeo, YouTube, Dropbox, or other cloud storage). Along with the application they must also upload a letter of intention/motivation in which the applicants state their interest and motivation for applying for the education.

If there is any doubt or need for extensive questioning regarding an application, the applicant will be invited in for an interview with the entry committee. Following this interview, the commission will give its final evaluation on whether the applicant will be allowed admission.

Qualified applicants will be offered enrolment in the order that their applications have been received. A waiting list will be created with applicants on standby, in case admitted students withdraw their application.

The applicants who are offered a spot, will receive a form to be filled out and signed in order to confirm their acceptance and spot at Truemax Academy. When this form is signed and the registration fee is paid, the agreements on the form are activated and the spot is reserved.

Objectives for learning output

The professional cornerstone of the education is based on the technical and the artistic aspects of 3D graphics as well as an all-round knowledge of a production. This makes the student capable of working with 3D within several different industries, such as the movie industry, the gaming industry, visualization and more.

The education is designed to develop the creative skills of the student, to give each student solid work experience from real productions, and to make the student able to work with all aspects of 3D productions directly after the education is completed.

Knowledge

The 3D Digital Artist has knowledge of:

- Methods and principles used in production processes, as well as the complexity in both real time and non-real-time pipelines and combinations of these, at a high level.
- Concrete high-level theories and techniques within:
 - 3D modelling
 - Texturing
 - Shading
 - Lighting
 - Rigging
 - Animation
 - Simulation
 - Scripting
 - Compositing
 - How this is included, planned, and managed in digital 3D productions.
- The trained 3D Digital Artist can understand and reflect on this knowledge and on how to use it across the visual industry – creatively, artistically as well as technically.

Skills

The 3D Digital Artist can:

- Plan and project manage 3D asset production, including assessing common production practices.
- Independently participate in multidisciplinary production teams within the field of media production.
- Model, unwrap and texture complex hard surface and organic 3D assets.
- Light and shade 3D scenes in a real-time and non-real-time pipeline on a high level.
- Rig characters (body and face) and mechanical objects, for use in real-time and non-real-time pipelines at an advanced level. Rig muscle systems at a basic level.

- Create key frame and motion capture animation for use in real-time and non-real-time pipelines at an advanced level.
- Compositing at an intermediate level, for use in a full 3D/CGI pipeline.
- Basic level simulation, for use in real-time and pre-rendered pipeline.
- Use scripting at an intermediate level.
- Use industry standard software tools for general 3D production at an advanced level.
- Use industry standard software tools for specialised tasks in 3D production at a high level.
- Can demonstrate and communicate in a specialist skillset relevant to their chosen field of study.

Competences

The 3D Digital Artist can:

- Act as a 3D generalist in a given digital 3D production.
- Work as a 3D model/graphic artist, texture artist, rigger/creature TD, sim TD/FX artist, animator, lighter/look Dev, render TD, set dresser/designer, compositor, roto artist, pipeline TD, previz artist – in a given animation film, VFX- or game production.
- Assist the production manager, line producer, R&D-, marketing- og SoMe-departments.
- Manage and take responsibility for the various methods and techniques as well as implement and plan these, in digital 3D productions within a given budget-, quality and artistic scope.
- Combine and balance art and technique in production processes in the visual industry.
- Receive and give constructive, professionally justified criticism of both work processes and production.
- Work in a team-oriented production environment and/or as a self-employed/freelancer.

Structure and exams

The 3DDA education consists of 7 semesters, each lasting approximate 20 weeks including the examination period. Completion of each semester is awarded with 30 points, giving the entire 3,5-year education a value of 210 points.

The 3DDA is a full-time education. There is mandatory participation during the education, except for shorter time periods within each semester and the majority of the 6th semester. Each semester is completed with an exam (except 1st semester), or a number of exams, which give access to the next semester. It is a requirement that the student passes one semester before advancing to the next.

However, in case a student fails an exam, it will be possible to take a re-examination.

General information about exams

Students must meet all specific terms, set by the school, to pass the exams. Students must retake an exam if they fail, and they are allowed to retake an exam in case of documented illness and alike.

The teachers and the administration will set the specific terms of the exam, e.g. deadlines, which must be met in order for the student to pass the exam. The student chooses whether to do the exams in English or in Danish. If the student is late, the exam will be considered failed. If a file or presentation is uploaded later than the set deadline, the exam will also be considered failed and given the grade -3.

Each semester exam must be passed with the minimum grade of 02 in order to move on to the next semester. If the grade (or the average grade) of an exam is less than 02, the student must take a re-examination following the same rules and directives as the failed exam.

- If a student fails an exam, a re-examination will be arranged as soon as the administration can arrange it, and preferably before the start of the next exam term. The student has the possibility of taking 2 re-examinations. If none of these are passed redoing the semester will be required.
- In case of illness on the day of the examination, the student is allowed a re-exam. This requires a written statement from a doctor, certifying that the student was indeed unable to attend the exam. The price of the written statement is paid by the student.
- Personal reasons, such as a tragic event in the student's close relations, accidents, and such, are considered on equal terms with illness, however the student must be able to produce evidence of the event.
- If a student cheats at the exam, he or she will get a -03 and receive a written warning. If it happens again during the education, he or she will be expelled from the programme.
- All exams are public/open except the 6th semester examination, as there may be problems with public display of projects, in which the student has developed his thesis in collaboration with a corporate company / studio and the thesis includes private corporate information.
- All exams at CADA Truemax will be graded either by the 7-point grading scale or passed/failed.

Complaints regarding exams

If the student wishes to complain about an examination, the student is referred to the Ministry of Higher Education and Science executive order no. 18 on Tests and Exams for Vocational Higher Educations, chapter 10, which, among other things, states that any complaint about an exam must be handed in to the school no later than 2 weeks after the result of the exam has been made known to the student. The complaint must be written and the reasons for the complaint must be clearly outlined. The school must answer the complaint within 2 weeks of receiving it, and when the student has received an answer, he or she has one week to make further comments to the answer from the school.

Detailed programme

1st semester - Foundation theory and practice

The students will be introduced to the fundamental subjects within 3D pipeline during the first semester, such as modelling, texturing, lighting, simulation, rigging, simple animation, rendering, as well as pre- and post-production. This semester focuses both on technical and artistic issues. The subjects will be worked on independently with several hand-ins during the semester. There are no final exams in the 1st semester. However, at the end of the semester, there will be a one-day practical assignment which summarizes all covered subjects.

Contents:

3D Basics – 6 points

Modelling I – 3 points

Modelling II – 3 points

Style Matching – 8 points

Game Character – 10 points

As part of the above-mentioned subjects the following will be covered:

Pipeline Literacy

Productivity Literacy

Technical Literacy

Visual Literacy

Concept and Editorial Literacy

2nd semester - Character animation and production

The 2nd semester evolves around three major headlines: A character animation course, a gameworld production course, and the production of a short movie.

Character animation is an individual course, which involves two productions created in a team.

The goals for the students are how to utilise their theoretical knowledge, while working on a practical production course together with others, gain insight into the similarities, as well as the differences between producing a game and an animation. In game production the students are solely responsible for the entire pre-production, from concept and manuscript to storyboard. The short film production can be either a collaborative production with an external director – or done entirely as an internal production.

Contents:

Animation 1 – 6 points

World Creation – 10 points

Environmental LookDev– 3 points

Short Film – 8 points

Exam Prep – 3 points

As part of the above-mentioned subjects the following will be covered:

Concept and Editorial Literacy

Game Literacy

Cinematography Literacy

Exam procedure and censorship

The semester ends with two exams with an external censor.

The first exam is a practical exam, where the student draws one out of three subjects: Modelling, rigging or animation. The student has 5,5 hours to complete the assignment.

The second exam is an oral examination. The student is expected to present and explain the five main hand-ins which he/she produced during the first two semesters: still image, game character (1st semester), character animation, Gameworld and short movie (2nd semester).

Both exams are graded using the 7-point grading scale. Students must score a minimum average of 2 to pass the exam.

3rd semester - Mastering theory and practice I

During the 3rd and the 4th semester students will be taught several specialised subjects, of which a lot are taught by highly specialised guest teachers from the industry. The actual order of the subjects can change, as availability of industry professionals can affect the planning of the semesters. Therefore subjects can switch place between 3rd and 4th semester.

The subjects will be taught as modules consisting of specialized classes and practical assignments within the subject.

The 3rd semester also contains an XR production.

Contents:

Visual Understanding – 2 points

Rigging II – 5 points

Animation II – 5 points

Hair and Fur – 2 points

Procedural – 8 points

Shading, lighting, and Rendering – 3 points

XR production – 5 points

Exam procedure and censorship

The exam project is a reel or portfolio showcasing the student's work during the semester. The exam is pass/fail and with an internal censor.

4th semester - Mastering theory and practice II

During the 3rd and the 4th semester students will be taught several specialised subjects, of which a lot are taught by highly specialised guest teachers from the industry. The actual order of the subjects can change, as availability of industry professionals can affect the planning of the semesters. Therefore subjects can switch place between 3rd and 4th semester.

The subjects will be taught as modules consisting of specialized classes and practical assignments within the subject.

A large part of the semester revolves around a film production project made in collaboration with external partners, typically from partnering education institutions. During the production students will partake as 3D Digital Artists applying and expanding their knowledge in the subjects taught prior to the production.

In the last part of the semester the students will make a practical as well as written hand-in focusing on a selected subject, that has been taught during 3rd and 4th semesters modules.

Contents

Sculpting – 4 points

Shading, lighting, and rendering II – 4 points

Virtual Production I – 4 points

Film production – 10 points

Individual project – 8 points

Exam procedure and censorship

The exam is a written exam, consisting of the handed-in assignment (both practical and written work). The exam is marked by a teacher and external censor using the 7-point grading scale. The practical part counts for $\frac{2}{3}$ and the process evaluation counts for $\frac{1}{3}$.

5th semester - Game Production / Virtual Production

The whole class will be divided into smaller groups, potentially in collaboration with external partners, e.g. DADIU, the Danish Film School, Aalborg University or an industry partner.

The production will primarily be focused on cross-disciplinary iterative/incremental production pipelines, e.g. games, virtual production, world-building, animation or game-cinematics using a game engine.

Contents

Game Production & Virtual Production + Exam 30 ETCS

As each production varies a perfect set of topics cannot be presented, but the following is exemplary of what can be expected:

- Development and production of a 3D game or realtime production. A 3DDA must have a balance of artistic sensibilities and technical understanding to make sure that everything works in accordance with the overall creative concept.
- Character production
- Production of the necessary 3D models from 2D design in collaboration with the director, the art director, the animators, the game designer and the level designer
- Collaborating with programmers to ensure that the 3D models function inside the game engine
- Collaborating with film professions to ensure creative vision.
- Cooperation with directors to produce character models that function in relation to the animation
- The 3DDA works with the art director, visual designer, and level designer to texture the 3D models

Exam procedure and censorship

The exam project is a reel or a portfolio showcasing the students' work during the semester. Production and exam (30 points). The exam is pass/fail and with an internal censor.

If the student does not pass the exam, he/she will be able to take a re-examination in an assignment which will cover specifications for the entire curriculum

6th semester - Thesis

The 6th semester is dedicated to the thesis project and is a semester that requires a high level of independence from the student. During the semester, the student works on a chosen subject from within the course, immersing in a single discipline, or with a broader focus, by including different disciplines and work in depth with a subject during the whole semester.

The student describes a project, synopsis/disposition, which must be completed within the framework of 20 weeks.

Every student has the right to meet 10 hours with a mentor.

The project is a practical project and can be done both individually and as group work. The project will always be evaluated and judged individually. In addition to this project the student is required to hand in a written assignment, containing a description and discussion of the workflow. This project will be included in the final evaluation.

To facilitate interdisciplinary collaboration with other educational institutions and the industry, the thesis can be done in partnership with relevant professional groups from the above-mentioned places, for example media students from Aalborg University, animation directors or photographers from the Danish Film School or businesses working within the subject field.

Contents

Thesis 30 ETCS

- Project development and description
- Practical and written project
- Process evaluation
- Creation of presentation

Exam procedure and censorship

The student hands in the project, including synopsis and a process evaluation. The student is expected to be able to explain the professional choices and discuss the methods used in the production. The oral exam lasts 45 minutes and includes a presentation of the project, questions, and a discussion. The thesis including the defence of the thesis in front of an internal and external censor comprises the final exam and will be evaluated in accordance with the 7-step grading scale. There will only be given one grade. The project and the process evaluation carry $\frac{2}{3}$ and the oral exam/defence of thesis $\frac{1}{3}$.

7th semester - Internship

The 7th semester is based on internship.

The student must participate in an internship of 12-21 weeks in one or more national or international businesses. During this time the student must gather material for his or her showreel. It is an important criterion that the student receives valuable experiences during the internship. The internship can begin immediately after the conclusion of the 6th semester and must be completed two weeks before the end of the semester. Finding an internship is the student's responsibility. In the event of free time during the student's involvement in an internship during the 7th semester the student will be required to prepare his/her showreel/portfolio.

After concluding the internship, the student will work on a showreel.

Contents

Practical internship 30 ETCS

- Internship
- Showreel

Exam procedure and censorship

The exam assignment required for the seventh semester is the students' final showreel, possibly the work developed during internship (if this material is allowed for public viewing). The assignment is produced and delivered during the second to last week of the semester and will be evaluated pass/fail by an internal and external censor.

During the final week of the semester the student will receive personal feedback and be informed by both a censor and a teacher whether the person in question has graduated from Truemax.

Diploma of Graduation

Upon graduation, the student will receive a diploma of graduation from CADA Truemax with specification of all grades from all exams. A graduate from CADA Truemax has the right to be titled 3D Digital Artist (3DDA).

Learning outcomes per semester

Semester 1

At the end of this semester students:

- have been taught the fundamentals of 3D still image art
- have been taught the importance of pipelines as a working method
- have been taught theories and methods that support their practical work

Semester 2

At the end of this semester students:

- have been taught the fundamentals of 3D animation
- have been taught the fundamentals of game environment art
- have been introduced to group work, conflict management and the soft skills associated with this type of work

Semesters 3 & 4

Semesters 3 & 4 are built around expert guest lecturers and are structured to their availability. The learning outcomes are the same across the year, but the order they come in will be different each year.

At the end of this semester students:

- Have been taught digital sculpting

- Have been taught procedural workflows
- Have been introduced to grooming, and working with digital hair and fur
- Have been taught advanced rigging and scripting
- Have worked with new technologies such as XR and Virtual Production
- Have been taught animation at an intermediate level

Semester 5

Semester 5 students work in teams producing games or virtual production. The focus of this semester is group work and soft skills.

At the end of this semester students:

- Have experienced game or virtual production pipelines
- Have experienced working in groups
- Have created several digital games or virtual production scenes.

Semester 6

At the end of this semester students:

- Have proposed a personal project
- Have researched and produced work for that project
- Have written a process document describing how, and why, they produced their work

General rules and regulations

Registration for classes and exams

At semester start CADA Truemax automatically register students for classes and exams. Registration for classes is mandatory and can only be omitted in special cases as described in the Student Handbook.

Evaluation

Evaluations are a crucial part of the quality assurance process at CADA Truemax and is approached in a systematic manner. A detailed description of the evaluations and the regulations around them can be found in CADA Truemax' evaluation policy, which is available on our website.

Attendance

There is compulsory attendance to all classes at the 3D Digital Artist education, except for 6th semester and partially 7th semester. Rules and regulations regarding attendance and failure to comply can be found in the Student Handbook.

Credit

Students can request credit for previous studies. The headmaster, head of education, and relevant teaching personnel evaluates requests for credit transfer. The evaluation will be based on the learning outcomes and study activities in relation to the 3D Digital Artist programme.

Language

All classes at the 3D Digital Artist education are taught in English. It is expected that the student can understand and speaks English on a level that does not hinder participation in the classes. Written assignments can be handed in in either English or Danish unless otherwise noted.

Complaints about teaching

General complaints of any kind should first be taken up with the teacher. If, for some reason, the student does not feel that he or she will get a fair hearing with the teacher, a written complaint should be sent to the study administration. The decision regarding the complaint must be written and justified. Further information can be found in the Student Handbook.

Suspension and expelling

Students can be suspended, or in worst case expelled, from the education. The rules and regulations are described in the Student Handbook.

Exceptions to general rules

CADA Truemax strives to be a flexible institution which takes the students' abilities and personalities into consideration when making decisions. Therefore, exceptions can be made when the school considers it needed.

All applications for dispensation must be handed in well in advance and in writing to study administration.

In each case the head of education, the teacher in question and the study administration will make the decision on whether the student may be granted a dispensation based on the regulations written above.