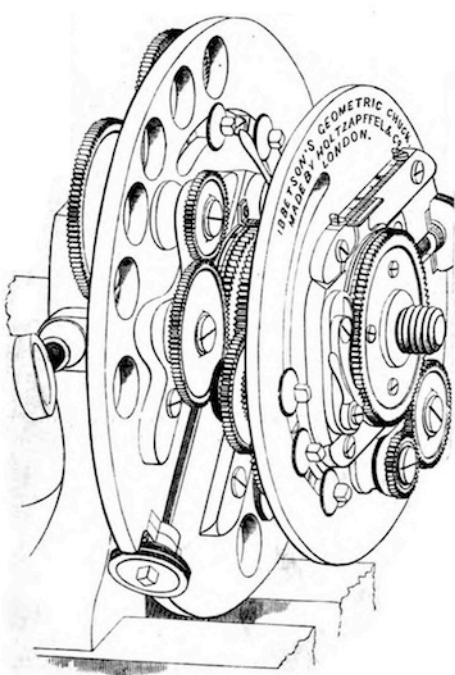


# Study Guide

Art and Technology  
Aalborg University  
3<sup>rd</sup> Semester 2013

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## Welcome Letter

Dear Third Semester ArT students,

Welcome to the third semester of your studies at Art and Technology. The focus of this semester is "dynamic art", specifically the design, analysis, and creation of artworks involving both physical and emotional transitions. The semester-specific theme is 'Harmonic Unfolding' where group projects incorporate a deterministic element based on a parametric system or algorithm involving harmonics.

The planned courses aim to teach you further theories of art and aesthetics, how to conduct and present artistic research, experimentation, and analysis, and more advanced/applied programming and system building. The module contents are intended to build upon your previously acquired knowledge as much as possible.

As you conduct your studies throughout the semester, I ask that you consider the relationship between *experience*, *experiment*, and *expert*. Each is derived from *experiri*, which means 'try' or 'test'. An expert, derived from the past participle of *experiri*, *expertus*, can be interpreted as meaning 'one who tried'.

I am looking forward to seeing you grow as researchers, scholars, and practitioners and to experiencing some engaging end-of-semester projects!

Dr. Lance Putnam  
Semester Coordinator

## Semester Overview

This semester is formally divided into four modules. Each of the modules will be examined individually.

### **Module 8—Dynamic Art and Technology**

15 ECTS

The semester project focuses on creating dynamic artworks. This introduces a set of challenges that we hope you will find inspiring and challenging and turn into interesting projects to exhibit. To help you with your semester project several supporting courses are taught. *Affective Design* teaches you to create and control emotions evoked in the spectators. *Programming II* teaches advanced programming methods in the context of pattern creation, sound processing, and mechanical actuation. Finally, *Rapid Prototyping* teaches methods to make ideas tangible, swiftly produce objects, and create elements for the final artwork.

### **Module 9—Programming Interactive Systems**

5 ECTS

Students learn about basic principles of software and how different digital systems can be designed to create alternative forms of interactions between man and machines. Students will learn about principles of object-oriented programming languages and how algorithms can be developed in order to design new forms HCI (Human-Computer Interaction).

### **Module 10—Art and Technology Concept Design**

5 ECTS

This module teaches how to develop concepts of installations or events, as well as how to evaluate the work.

### **Module 11—Art In Context I: Art Theory**

5 ECTS

This module is an introduction to relevant artistic and aesthetic theories from a variety of research disciplines and research traditions (i.e., history of art and literature, rhetoric, philosophy, sociology, technology) and an introduction to the analytical methodologies of these disciplines and their position within theories of science related to the study's subject field.



## Teachers and Faculty

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Morten Søndergaard	mortenson@hum.aau.dk

Title	Person(s)
Secretary	Anne Nielsen
Group Project Supervisors	Lars Knudsen, Esben Skouboe Poulsen and Lance Putnam
Module 8—Dynamic Art and Technology	Lance Putnam
Artistic and Academic Methodology III (Affective Design)	Ståle Stenslie
Digital Representation II (Rapid Prototyping)	Lars Knudsen
Programming II	Lars Knudsen and Lance Putnam
Module 9—Programming Interactive Systems	Lance Putnam
Programming III	Lars Knudsen and Lance Putnam
Module 10—Art and Technology Concept Design	Carsten Friberg
Method Design and Analysis	Carsten Friberg and Ståle Stenslie
Concept Design and Analysis	Carsten Friberg and Ståle Stenslie
Module 11—Art in Context I: Art Theory	Morten Søndergaard
Theory of Art and Aesthetics	Falk Heinrich and Morten Søndergaard

## Module 8—Dynamic Art and Technology

Project period (from/to):	Sep. 3, 2013 – Jan. 31, 2014
Work form:	Group and project work
Submission date:	Jan. 4, 2014
Examination date:	Jan. 20 & 21, 2014
Secretary:	Anne Nielsen
Coordinator(s):	Lance Putnam
Supervisor(s):	Lars Knudsen, Esben Skouboe Poulsen, and Lance Putnam

### Study Plan Description

#### Contents:

The basis of this module is human perception of movements and transitions, both physical and emotional. Students will work with principles of creation for time-based artifacts, and the experience of artifacts expressing temporal, spatial, and affective transitions. A variety of audio/visual technologies and engineered solutions will be tested and applied in the creation of products, artifacts and installations in the project unit, including mechanical and electronic alternatives of creating and controlling movement and embedded autonomy.

During the semester, students work theoretically and experimentally with projects that challenge their creative and technologies skills and produce artistic effects focused on performative interaction between humans and machines.

In connection with the module, courses may be offered within the following areas:

- Artistic and Academic Methodology III (Affective Design)
- Creative Sensor Networks
- Digital Representation II (Rapid Prototyping)
- Programming II

#### Objectives:

The objective of this module is to introduce students to basic problem areas and solutions regarding the creation of products, artifacts, performances and installations, which may result in the expression of transitions both physically and emotionally.

During this module students should acquire:

Basic *knowledge* about

- Works of art supported by adaptive technologies expressing physical or emotional transition
- The creation and perception of artifacts expressing physical or emotional transition
- A variety of mechanical and electronic technologies of creation of movement and embedding of autonomy
- Artistic expression using audio technologies for the production of sound-based interactivity
- Academic and artistic methods and tools to be used when working with design and implementation of artifacts or installations that express or trigger emotional or physical movement

*Skills in*

- Identifying and formulating an art problem within the theme of the module
- Analyzing an artistic problem and developing alternative concepts for the defined problem
- Motivating the application of certain technologies in connection with the design of installations expressing transitions
- Identifying, developing and describing the interaction between form, choice of materials and technological solutions with a view to achieving a clear aesthetic expression and performance
- Motivating choice of methodology in connection with the development of dynamic artifacts and installations working with motion and affect

*Competencies in*

- Describing and analyzing works and installations which use adaptive technologies
- Employing autonomous technologies in design and implementation of artifacts or installations expressing emotional or physical movement
- Applying academic and artistic methodologies, in regard to interaction between technology, choice of materials, aesthetic expression, and user experience
- Contextualising own artistic solutions (to state-of-art, socio-cultural requisites and consequences, art theoretical and aesthetic dimensions, etc.)
- Describing the completed design in an academic form and communicating this in a project report, portfolio, etc.

The module is completed with:

**Examination 8**

An external combined written and oral examination in **Module 8: “Dynamic Art and Technology”**.

Form of examination: b)

The examination will take the form of a conversation between the student, the examiner and an external examiner on the basis of the project report prepared by the student(s), which may be in the form of a process report or portfolio as well as the product created by the student.

Number of pages: the written work must not exceed 10 pages per student (15 pages in the case of individual reports).

Duration of examination: 20 minutes/student + 10 minutes voting and grading. Max. 2 hours/group.

Evaluation: Grading according to the 7-point scale. In the evaluation of the examination performance, the grade 12 will only be awarded to students who demonstrate that they have fulfilled the objectives for the subject exhaustively or with only few insignificant omissions.

Proportional weighting: The project report, the product, and the oral performance are weighted equally.

Credits: 15 ECTS

The written report, the product and the oral examination should demonstrate that the student has fulfilled the objectives outlined above.

NOTICE:

The project exam will also address other content from the project module courses.

## Semester-specific Description

### Content

For the 2013 edition of the Dynamic Art and Technology the theme has been chosen to be 'Harmonic Unfolding'. Harmonics, being a fundamental building block of motion, play an important role in both the scientific and artistic inquiry of dynamic systems. Artworks should contribute to the long lineage of machines and deterministic processes developed since the 18th century that utilize harmonics to create complex patterns. Project inspiration can be found in such topics as the geometric pen/chuck, pendulum systems, the harmonograph, oscilloscope art, cymatics, John Whitney's digital harmony, turtle graphics, and mathematical computer art. The goal is not to recreate the past, but to generate novel experiences using programmable computer and digital technologies.

Working with time means you will have to compose a work, more or less, as we are used to seeing it in other temporal artworks such as music, theatre, film, and dance. However, it doesn't mean the work needs to be scripted to minute detail; there should also be room for interaction and/or improvisation. Physical movement must be one of the transitions that occurs in your work.

### Project Deliverables

This semester, students will be divided into groups of four to five students and each group will work on a single project with the goal of creating an interactive art installation and/or performance to be included in the end-of-semester exhibition.

The project report should clearly explain the motivation, design, implementation, and analysis of the artwork. It must contain a problem statement or question, historical/contextual background, elaboration and justification of artistic, aesthetic, and technical elements, and evaluation and analysis of the artwork. All supporting material, such as source code, interviews, survey data, observations, etc., must be included in appendices. You are also required to make a video documentation of the final artifact and hand it in with the report.

Three hard copies of the project report must be produced (one for the examiner, one for the censor and one for the department secretary and archiving purposes). The video and any other relevant digital media (e.g., images, sounds) should be provided on a CD/DVD and submitted with the printed report in a pocket inside the back cover.

All material in the report that is not the original creation of the students in the group must be properly acknowledged by using a standard citation/reference style (e.g., Harvard, Chicago, APA, AMS). Failure to do this will be considered *plagiarism* and will lead to immediate failure and possibly also to expulsion from the program.



## Programming II

Secretary:	Anne Nielsen
Coordinator(s):	Lance Putnam
Lecturer(s):	Lars Knudsen and Lance Putnam
Purpose and goals:	To teach the participants to use input from the physical world in digital systems, to program parametric system that generate patterns, exporting 3D data, processing and analyzing sound and actuate mechanical devices. Exercises will take the form of in-class workshop sessions and take-home assignments.
Assessment:	Through the semester project.

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Title 1:	Listening to the real world
Lecturer(s):	Lars Knudsen
Content:	Getting and using sensor input from an Arduino into a computer program
Assignments:	Animate a shape based on sensor input
Literature:	"Arduino cookbook" chapter 4 introduction, 4.1, 4.2 and 4.4 as well as "Making things talk" p18-21 + p49-70

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Title 2:	Hello real world
Lecturer(s):	Lars Knudsen
Content:	Controlling actuators from an computer program
Assignments:	Activate an actuator based on an event in a computer program
Literature:	"Arduino cookbook" chapter 4.3 and 4.5

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Title 3:	Mechanical transitions
Lecturer(s):	Lars Knudsen
Content:	Overview of different types of mechanical actuators and how to operate them using an Arduino
Assignments:	Make an object physically move
Literature:	"Arduino cookbook" chapter 8

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Title 4:	Sound Synthesis
Lecturer(s):	Lance Putnam
Content:	Introduction to basic sound synthesis techniques. Topics include sample playback, oscillators, noise, and filters.
Assignments:	Exercises based on session.
Literature:	de Poli, G. (1983). A tutorial on digital sound synthesis techniques. Computer Music Journal, 7(4):8-26.

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Title 5 and 6: Shape Generation Workshop  
Lecturer(s): Lance Putnam  
Content: Full-day workshop on shape generation techniques and exporting to 3D object files.  
Assignments: TBA  
Literature: Lecture notes

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Title 7a: Using Libraries  
Lecturer(s): Lance Putnam  
Content: Library header files and archives, what to look for in a library (platforms, licenses), building libraries from source.  
Assignments: TBA  
Literature: Library (computing), [http://en.wikipedia.org/wiki/Library\\_\(computing\)](http://en.wikipedia.org/wiki/Library_(computing))  
Understanding software Installation (configure, make, make install), <http://www.codecoffee.com/tipsforlinux/articles/27.html>  
Categories of free and nonfree software, <http://www.gnu.org/philosophy/categories.html>

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Title 7b: Project Development I: Brainstorming and Making  
Lecturer(s): Lars Knudsen and Lance Putnam  
Content: This session will focus on improving a previously made interactive program or in developing a component of the semester project. Students will work in groups of 1-3 people.  
Assignments: Prepare a presentation and demonstration for the next session.  
Literature: None

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Title 8: Project Development II: Presentations  
Lecturer(s): Lars Knudsen and Lance Putnam  
Content: Presentation of project developments to class.  
Assignments:  
Literature: None

### Artistic and Academic Methodology III (Affective Design)

Secretary:	Anne Nielsen
Coordinator(s):	Ståle Stenslie
Lecturer(s):	Ståle Stenslie
Purpose and goals:	Affective design is about designing strong and specific emotions in user(s). The lecture series will first introduce the wider field as inspired by Human-Computer-Interaction before focusing on the artistic methodology of <i>Inverse Thinking</i> . This is a variation of negative teleology, where a work of art seemingly defeat a constructive purpose. <i>Inverse Thinking</i> is therefore a method aiming at the production of opposites or negations that postulate rather different choices from what one actually intends. Such kinds of chameleon tactics are often used by activists to produce strongly affective experiences that provoke opinions and discussions. The intention behind this is to cause deeper reflections on the issues at hand. The goal of the Inverse Thinking method is to both test and challenge artistic concepts as well as promote reflection on the issue at hand. Further the lecture series aim to provide the students with a theoretical toolkit that help produce more effective, convincing and impressive works of art.
Assessment:	Through the semester project

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Title 1:	Introduction to Affective Design
Lecturer(s):	Ståle Stenslie
Content:	The lecture will introduce the origin of and various concepts behind affective design and how it might be used to produce strong, affective experiences. The students will get an overview of the field both in Human-Computer-Interaction (HCI) and artistic practice.

Assignments:

Literature:	Picard, R. W. (1997) <i>Affective Computing</i> , pp. 21 – 25. MIT Press. Tikka, H. (2003). <i>Affective environments: configuring the affective user?</i> In <i>Discovering New Media, Working Papers</i> , University of Art and Design Helsinki UIAH, publication series F 26, Helsinki. Download from <a href="http://mlab.uiah.fi/culturalusability/papers/Tikka_paper.html">http://mlab.uiah.fi/culturalusability/papers/Tikka_paper.html</a>
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Title 2:	Inverse Thinking
Lecturer(s):	Ståle Stenslie
Content:	The lecture will present Inverse Thinking as a relevant methodology to produce strong and provocative works of art. Various projects from different fields will be presented, analysed and discussed.
Assignments:	Research and document relevant artistic projects for presentation in class
Literature:	Julius, A. (2002). <i>Transgressions – The offences of art</i> , pp. 16–51. Thames & Hudson, London.

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Title 3:	Inverse Thinking in Art
Lecturer(s):	Ståle Stenslie
Content:	Artists often aim at eliciting strong emotions. This sounds easier than it is. The lecture will therefore present and analyse specific art projects that experiment with strong and often contradicting emotions.
Assignments:	
Literature:	Ballard, J. G. (1995). Crash. Vintage.

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Title 4:	Inverse Thinking as artistic and academic methodology
Lecturer(s):	Ståle Stenslie
Content:	A workshop in producing concepts and ideas aiming at producing conflicting emotions in users
Assignments:	Students must select a specific field of problem and implement Inverse Thinking methodology in an attempt to solve it. Ideas will be presented and discussed in class.
Literature:	Adorno, T. (1990). Negative Dialectics, chapter 1. Routledge.

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Title 5:	Shock, Awe and Fear
Lecturer(s):	Ståle Stenslie
Content:	Strong emotions can both attract and scare audiences. The lecture will present how to use inverse thinking in production of psychophysically challenging works of art.
Assignments:	
Literature:	The 'Sensation' exhibition. (1997). Download from: <a href="http://www.artdesigncafe.com/Norman-Rosenthal-Sensation-Royal-Academy-of-Arts-London-1997">http://www.artdesigncafe.com/Norman-Rosenthal-Sensation-Royal-Academy-of-Arts-London-1997</a> <a href="http://www.flashartonline.com/interno.php?pagina=articolo_det&amp;id_art=649&amp;det=ok&amp;title=SENSATION">http://www.flashartonline.com/interno.php?pagina=articolo_det&amp;id_art=649&amp;det=ok&amp;title=SENSATION</a>

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Title 6:	Reflections in Inverse Thinking
Lecturer(s):	Ståle Stenslie
Content:	The lecture will dissect and discuss various concepts prepared by students
Assignments:	Script up to three scenarios using Inverse Thinking as a methodology. Present in class.
Literature:	Badiou, A. Fifteen Theses on Contemporary Art. Lacanian Ink 22. Downloaded from <a href="http://www.lacan.com/frameXXIII7.htm">http://www.lacan.com/frameXXIII7.htm</a>

## Digital Representation II

Secretary:	Anne Nielsen
Coordinator(s):	Lars Knudsen
Lecturer(s):	Lars Knudsen and Esben Skouboe Poulsen
Purpose and goals:	The purpose of this course is to present methods and tools for creating physical representations of digital designs. The course will cover the tools available at the university, such as laser cutting, 3D printing, cutting machine, etc. The course will also present other possible rapid manufacturing processes, which might not be available at the university. By the end of the course the student should be able to use knowledge of rapid manufacturing technologies in both designing and implementation of projects. The course assumes students have basic knowledge of creating and editing digital 2D and 3D designs.
Assessment:	Through the semester project

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Title 1:	What is rapid prototyping?
Lecturer(s):	Lars Knudsen
Content:	Introduction to prototyping and rapid prototyping based on digital designs
Assignments:	Make sure your computer is set up with 2D and 3D editing software. The 2D software should be able to handle vectors and the 3d software should be able to output .stl files. Adobe Illustrator and 3D Studio Max are recommended, but other and free alternatives are possible to use in the course. Prepare a 2D design for physical reproduction.
Literature:	None

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Title 2:	2D representations
Lecturer(s):	Lars Knudsen
Content:	How to rapidly make physical representations of digital 2D material. What is possible and what are the limits? Demonstration of methods available generally and at AAU.
Assignments:	Create physical representation of 2D design. Prepare a 3D design for physical reproduction.
Literature:	None

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Title 3:	3D representations
Lecturer(s):	Lars Knudsen
Content:	How to rapidly make physical representations of digital 3D material. What is possible and what are the limits? Demonstration of methods available generally and at AAU.
Assignments:	Create physical representation of 3D design. Produce sketch of design for the last two lectures.
Literature:	None



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Title 4: Design implications  
Lecturer(s): Lars Knudsen  
Content: The implications of rapid prototyping on the approach to, and design of objects. Discuss sketches for the final lectures.  
Assignments: Prepare files for the last lectures, Hands on experience  
Literature: TBA

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Title 5: Hands on experience  
Lecturer(s): Lars Knudsen  
Content: Work on own designs to gain practical experience with creating physical representations of digital designs.  
Assignments:  
Literature: None

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Title 6: Hands on experience continued  
Lecturer(s): Lars Knudsen  
Content: Work on own designs to gain practical experience with creating physical representations of digital designs.  
Assignments:  
Literature: None

## Module 9—Programming Interactive Systems

Project period (from/to):	Sep. 2, 2013 - Sep. 27, 2013
Work form:	Group and project work
Date for submission and critique:	submission: Sep. 24, 2013 examination: Sep. 26 & 27, 2013
Secretary:	Anne Nielsen
Coordinator(s):	Lance Putnam
Supervisor(s):	Lars Knudsen and Lance Putnam

### Objectives:

“Programming Interactive Systems” is a module where students learn about basic principles of software and how different digital systems can be designed to create alternative forms of interactions between man and machines. Students will learn about principles of object-oriented programming languages and how algorithms can be developed in order to design new forms HCI (Human-Computer Interaction).

During this module students should acquire:

#### Basic *knowledge* about

- Digital communications protocols: MIDI, OSC, DMX, USB, etc.
- Networking applications: inter-application communication, internet-based communications, etc.
- Basic programming: Programmatic statements, loops, use of libraries
- Basic user interface design principles for realizing a software interface for human-computer interaction
- Data mapping strategies in software / firmware algorithms

#### *Skills* in

- Applying knowledge to the development of a human-computer interface artifact used in conjunction with a PC software application – and demonstrate its use (application)
- Analyzing use of the artifact
- Synthesizing knowledge in written documentation

#### *Competencies* in

- Evaluating the artifact from a technical perspective
- Identifying learning needs in the area of programming interactive systems

The module is completed with:

### **Examination 9**

An internal combined written and oral examination in **Module 9: “Programming Interactive Systems”**. The examination is a 7-day assignment on a set subject.

Form of examination: a)

The examination will take the form of a conversation between the student, the examiner and an internal censor on the basis of the artefact and report prepared by the student(s).

Number of pages: the written part must not exceed 5 pages.

Evaluation: Grading according to the 7-point scale. In the evaluation of the examination performance, the grade 12 will only be awarded to students who demonstrate that they have fulfilled the objectives for the subject exhaustively or with only few insignificant omissions.

Credits: 5 ECTS

The oral examination should demonstrate that the student has fulfilled the objectives outlined above.

## Programming III

Secretary:	Anne Nielsen
Coordinator(s):	Lance Putnam
Lecturer(s):	Lars Knudsen and Lance Putnam
Purpose and goals:	Programming III follows Programming I introducing more advanced programming constructs and real-time multimedia systems. Specifically, students will learn about structures and object-oriented programming, real-time sound and graphics, basic user interaction, and inter-application communication protocols. By the end of the course, students will have sufficient knowledge of programming and interactive multimedia systems to be able to work with a wide array of different libraries and frameworks. Exercises will take the form of in-class workshop sessions and take-home assignments.
Literature:	Loudon, K. (2003). C++ Pocket Reference. O'Reilly Media, Inc., USA.  cplusplus.com. (2000). C++ Language Tutorial, <a href="http://www.cplusplus.com/doc/tutorial/">http://www.cplusplus.com/doc/tutorial/</a> .
Assessment:	See module description

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Title 1:	Programming Review and Structures
Lecturer(s):	Lance Putnam
Content:	Review of basic programming constructs: variables, functions, arrays, loops, and control structures. Introduction to structures.
Assignments:	Programming exercises based on session.
Literature:	Review assignments and literature from Programming I. "Data Structures - C++ Documentation", <a href="http://www.cplusplus.com/doc/tutorial/structures/">http://www.cplusplus.com/doc/tutorial/structures/</a>

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Title 2:	Object-oriented Programming I
Lecturer(s):	Lance Putnam
Content:	Introduction to object-oriented concepts: class and instance/object, member variables/functions, and constructors/destructors.
Assignments:	Programming exercises based on session.
Literature:	"Classes (I) - C++ Documentation", <a href="http://www.cplusplus.com/doc/tutorial/classes/">http://www.cplusplus.com/doc/tutorial/classes/</a> . "Classes (II) - C++ Documentation", sections "The keyword this" and "Static members", <a href="http://www.cplusplus.com/doc/tutorial/classes2/">http://www.cplusplus.com/doc/tutorial/classes2/</a> .

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Title 3:	Object-oriented Programming II
Lecturer(s):	Lance Putnam
Content:	Introduction to object-oriented concepts: inheritance and polymorphism.
Assignments:	Programming exercises based on session.
Literature:	"Friendship and inheritance - C++ Documentation", sections "Inheritance between classes", "What is inherited from the base class?", and "Multiple inheritance", <a href="http://www.cplusplus.com/doc/tutorial/inheritance/">http://www.cplusplus.com/doc/tutorial/inheritance/</a> .

"Polymorphism - C++ Documentation",  
<http://www.cplusplus.com/doc/tutorial/polymorphism/>.

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Title 4:	Program Flow and Real-time Sound
Lecturer(s):	Lars Knudsen
Content:	Program design and description techniques: UML, pseudo-code, and flowcharts. Programming real-time audio. Topics include samples as a representation of sound pressure, sampling rate, input/output streams, channels, and processing blocks.
Assignments:	Programming exercises based on session.
Literature:	Lecture notes

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Title 5:	Real-time Graphics I
Lecturer(s):	Lars Knudsen
Content:	Programming real-time graphics. Introduction to animation and draw loops, meshes, and images.
Assignments:	Programming exercises based on session.
Literature:	Lecture notes

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Title 6:	Real-time Graphics II
Lecturer(s):	Lars Knudsen
Content:	Programming real-time graphics. Introduction to animation and draw loops, meshes, and images.
Assignments:	Programming exercises based on session.
Literature:	Lecture notes

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Title 7:	Mouse and Keyboard Input
Lecturer(s):	Lars Knudsen
Content:	Responding to mouse and keyboard input.
Assignments:	Programming exercises based on session.
Literature:	Lecture notes

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Title 8:	Communication Protocols
Lecturer(s):	Lance Putnam
Content:	Overview of digital communication protocols including MIDI, Open Sound Control (OSC), DMX, and VRPN. Connecting two different software systems.
Assignments:	Create a simple OSC-based client/server system.
Literature:	<a href="http://opensoundcontrol.org/spec-1_0">http://opensoundcontrol.org/spec-1_0</a> <a href="http://www.cs.unc.edu/Research/vrpn/VRST_2001_conference/vrst_vrpn_aper_reprint.pdf">http://www.cs.unc.edu/Research/vrpn/VRST_2001_conference/vrst_vrpn_aper_reprint.pdf</a> <a href="http://ritelites.com/yahoo_site_admin/assets/docs/dmx101_handbook.296102453.pdf">http://ritelites.com/yahoo_site_admin/assets/docs/dmx101_handbook.296102453.pdf</a> "The DMX512 Packet", <a href="http://www.dmx512-online.com/packt.html">http://www.dmx512-online.com/packt.html</a>



## Module 10—Art and Technology Concept Design

Project period (from/to)	Oct. 16, 2013 - Nov. 13, 2013
Work form:	Lectures and project work
Date for submission and critique:	Nov. 13, 2013
Secretary:	Anne Nielsen
Coordinator(s):	Carsten Friberg
Supervisor(s):	Carsten Friberg and Ståle Stenslie

### Contents:

The module “Art and Technology Concept Design” focuses on concept design processes and method development of interactive installations and/or place-based events. The module introduces academic methods such as qualitative or quantitative of research and analysis and methods of artistic experimental creativity as measures in artistic concept development processes. Furthermore, the module introduces oral and written presentation techniques.

In connection with the module, courses may be offered within the following areas:

- Method Design and Analysis
- Concept Design and Diagrams

### Objectives:

During this module, students should acquire:

Basic *knowledge* about

- Various qualitative methods in relation to the analysis and understanding of users, places and their usages, etc.
- Quantitative methods in relation to the analysis and understanding of users, places and their usages, etc.
- Theories and methods of artistic and experimental practices

*Skills* in

- Conceptualizing various forms of interactive or relational experience employing and combining various methods of concept development presenting artistic concepts to various target groups

*Competencies* in

- Designing and conceptualizing interactive installation and/or place-based events
- Handling complexity and development work related to concept design processes
- Identifying own learning needs and to structure own learning related to concept design

The module is completed with:

### **Examination 10**

An internal combined written and oral examination in **Module 10 “Art and Technology Concept Design”**

Form of examination: a)

The examination is a free assignment, which is evaluated by one examiner and awarded a pass/fail grade. For the examination students have to submit a written presentation of an artistic concept within the subject field of Art & Technology. The written part must not exceed 5 pages. The oral examination consists of a student presentation followed by a discussion between the student and the examiner.

Evaluation: pass/fail. One examiner evaluates the assignment. In case of a Fail grade, an additional examiner will also evaluate the assignment.

Substitution: The examination may be substituted by satisfactory and active participation in courses, i.e. 80% presence and submission of all assignments set during the course.

Credit: 5 ECTS

The examination should demonstrate that the student has fulfilled the objectives outlined above.

### **Description of *ArT and Technology Concept Design***

**Purpose and Goals:** The overall focus is on analysis, development and creation of concepts for an artistic intervention on a specific location. The courses will introduce and discuss different perspectives on creating concepts through both lectures and experiments.

**Content:** The course will alternate between lectures, experiments and group discussions and presentations. Through exercises related to the different elements of analysing and developing concepts these elements will be investigated and used in small assignments some possible related to a cross-semesters collaboration related to Thierry Geoffroy's Emergency Room.

**Submissions and submission format:** Max 5 pages of text, oral examination and group presentation

**Examination and assessment:** A written presentation of max 5 pages of a concept developed in the course and an oral presentation and discussion.

Substitution: Satisfactory and active participation in the courses i.e. active participation in group presentations and in exercises. Active participation is 80 % presence and submission of all assignments.

**Assessment:** pass/fail

## Method Design and Analysis

Secretary:	Anne Nielsen
Coordinator(s)	Carsten Friberg
Lecturer(s):	Carsten Friberg and Ståle Stenslie
Purpose and goals:	The course introduces components leading to the creation of a concept. The focus is on interpretations of observations and data collected. The ArT approach is to combine classical approaches with also methods developed in an artistic context and with artistic intentions.
Assessment:	Active participation in lectures, discussions and experiments.

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Title 1:	Artistic Methods
Lecturer(s):	Ståle Stenslie
Content:	The lecture gives an overview of artistic approaches to concept design processes and method development relevant to interactive installations and/or location specific events. The students will get a basic understanding of what concept design is and why it is so important to artistic practice.
Assignments:	Reading the mandatory texts and participating in discussion.
Literature:	Marinetti, F. T. (1909). The Futurist Manifesto. <a href="http://cscs.umich.edu/~crshalizi/T4PM/futurist-manifesto.html">http://cscs.umich.edu/~crshalizi/T4PM/futurist-manifesto.html</a> Leavy, P. (2008). Method Meets Art: Arts-Based Research Practice, pp. 4 – 16. Guilford Press.

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Title 2:	Psychogeography
Lecturer(s):	Ståle Stenslie
Content:	Psychogeography is the study and reflection on how physical places affect us. The lecture gives a historical and philosophical introduction to the concept and how it has been used in artistic contexts. The aim of the lecture is to provide the students with a qualitative and artistic method that easily can be used on site during the course excursion/mapping of Aalborg.
Assignments:	Reading the mandatory texts and participating in discussion.
Literature:	Sadler, S. (1999). The Situationist City, pp. 76 – 81. MIT Press.

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Title 3:	Observations and Interpretations I
Lecturer(s):	Carsten Friberg
Content:	Observation is an important source of information about a specific place, but observations may easily become biased and useless. We cannot simply observe but we will always observe something, and this something will always appear on the background of something else. Do we, for example, perceive the same Aalborg harbor? Or do we view with different lenses formed by our interests?
Assignments:	Reading the mandatory text and participating in exercises.
Literature:	Gombrich, E.H. (2002). <i>Art and Illusion. A study in the psychology of pictorial representation</i> , chapter 2: "Truth and Stereotype", pp. 55-78. Phaidon. Watter, E. "We Aren't the World" in Pacific Standard online: <a href="http://www.psmag.com/magazines/pacific-standard-cover-story/joe-henrich-weird-ultimatum-game-shaking-up-psychology-economics-53135/">http://www.psmag.com/magazines/pacific-standard-cover-story/joe-henrich-weird-ultimatum-game-shaking-up-psychology-economics-53135/</a>

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Title 4:	Observations and Interpretations II
Lecturer(s):	Carsten Friberg
Content:	Any observation also includes interpretation. We bring different expectations with us and we look for what we intent to find – we cannot look for the unknown as we don't know what to look for. At the same time we should also learn to keep our senses open and discover the unknown. An important starting point is to be aware of one's own knowledge in order to both discover one's own limitations and to see the new in the other.
Assignments:	Reading the mandatory text and participating in exercises.
Literature:	Augoyard, J.-F. (1979) <i>Step by Step. Everyday Walks in a French Urban Housing Project</i> , pp. 7-22 + 222-223 (chapter 1). University of Minnesota Press, Minneapolis/London. – or a text about hermeneutics. Chakar, T. (2002). "The Suburbs and the Vocabulary of Urbanisation: Violence as an Architectural Language" in Fundació Antono Tàpies ed. <i>Tamáss. Contemporary Arab Representations</i> , pp. 40-57. Barcelona.

## Concept Design and Analysis

Secretary:	Anne Nielsen
Coordinator(s)	Carsten Friberg
Lecturer(s):	Carsten Friberg and Ståle Stenslie
Purpose and goals:	The lectures will introduce different perspectives of designing concepts for an artistic intervention. The goal is to make the students able to present a concept for a project clearly and convincingly. Students should be able to disseminate the idea, intention, relevance, and strategy for realization behind a forthcoming, possible project.
Assessment:	Active participation in lectures, discussions and experiments.

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Title 1:	Concepts, Language, Expression
Lecturer(s):	What is a concept? Why does it matter to care about them? Are they limits to our thinking and expression or are they fertile with meaning? Are we using them for communicating or are they using us? This lecture will be a small philosophical digression into some reflections on thinking and expression.
Content:	
Assignments:	Reading the mandatory texts and participating in discussion.
Literature:	Lakoff and Johnson. <i>Metaphors We Live By</i> , pp. 3-9. Chicago University Press. McLuhan, M. (1964). <i>Understanding Media. The extensions of man</i> , chapter The Medium is the Message, pp. 7-23. Routledge.

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Title 2:	Rhetorical Strategies
Lecturer(s):	Carsten Friberg
Content:	Rhetoric is concerned with intervening in a specific context. The rhetorical tradition offers some strategic considerations of use also for an artistic intervention, and the lecture will introduce some rhetorical concepts that can serve as guiding principles for artistic interventions and communication.
Assignments:	Reading the mandatory texts and participating in discussion.
Literature:	Kennedy, G. A. (1994). <i>A New History of Classical Rhetoric</i> , pp. 3-10. Princeton University Press, Princeton, N.J. Kester, G. (2004). <i>Conversation Pieces. Community + Communication in Modern Art</i> , pp. 17-25; 195-196. University of California Press. Andrew B., ed. (2012). <i>Beautiful Trouble. A Toolbox for Revolution</i> , pp. 208-209; 268-269; 278-281; 358-359. OR Books.



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Title 3:	Concept Designs
Lecturer(s):	Ståle Stenslie
Content:	The lecture will be a workshop in writing, presenting and discussing artistic concepts. The main task is to design and conceptualize an interactive installation and/or place-based event. This should then be presented in class for group discussion.
Assignments:	Groupwise preparation of a concept to be presented in class. Participation in discussion.
Literature:	Schwartzman, M. (2011). <i>See Yourself Sensing – Redefining Human Perception</i> . Black Dog Publishing. Note: this book contains several examples of how to mediate installations/media art in a concise and precise manner.

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Title 4:	Conceptual activism
Lecturer(s):	Ståle Stenslie
Content:	Overview of the complex ecosystem behind various conceptual and activist interventions. The lecture will present relevant examples for analysis and discussion. Further the lecture will discuss artistic intentions and ideas in comparison to actual, completed artworks.
Assignments:	Reading the mandatory texts and participating in discussion.
Literature:	Julius, A. (2002). <i>Transgressions – The offences of art</i> , pp. 16–21. Thames & Hudson, London.

## Module 11—Art in Context I: Art Theory

Project period (from/to)	Oct. 21, 2013 - Nov. 26, 2013
Work form:	Lectures and writing assignments
Date for submission and critique:	TBA
Secretary:	Anne Nielsen
Coordinator(s):	Morten Søndergaard

### Contents:

The module is an introduction to relevant artistic and aesthetic theories from a variety of research disciplines and research traditions (i.e., history of art and literature, rhetoric, philosophy, sociology, technology) and an introduction to the analytical methodologies of these disciplines and their position within theories of science related to the study's subject field. Students will analyse art and design artefacts applying methodologies and theories presented in the course. The module consists of lectures, workshops and seminars.

In connection with the module, courses may be offered within the following area:

- Theory of Art and Aesthetics

### Objectives:

During this module, students should acquire:

Basic *knowledge* about

- Aesthetic theories and their significance for art and experience design
- Methods of aesthetic analysis of artworks and art projects
- Art theories on the relation between artist, the recipient, and the work of art

*Skills* in

- Applying various basic aesthetic concepts and artistic models in connection with analysing projects of art, their contexts and their participants
- Presenting and discussing various aesthetic and artistic positions and their significance for the field of art and technology
- Communicating technical issues to peers and non-peers

*Competencies* in

- Writing academic analysis of artistic projects and aesthetic artefacts
- Applying aesthetic theories and methods in design, description and evaluation of artistic projects and experiences
- Conducting case specific studies, applying one or more theories and methods of the field

The module is completed with:

### **Examination 11**

An internal written examination in **Module 11 “Art in Context I – Art Theory”**

Form of examination: c)

The examination is a 7-day assignment on a set subject, which is evaluated by one examiner and awarded a pass/fail grade. In case of a Fail grade, an additional examiner will also evaluate the assignment.

Number of pages: the written work must not exceed 12 pages.

Substitution: the examination may be substituted by satisfactory and active participation in courses, i.e. 80% presence and submission of all assignments set during the course.

Credits: 5 ECTS

The examination should demonstrate that the student has fulfilled the objectives outlined above.

## Theory of Art and Aesthetics

Secretary	Anne Nielsen
Coordinator(s):	Morten Søndergaard
Lecturer(s):	Falk Heinrich and Morten Søndergaard
Purpose and goals:	Any modern theory of Art and Aesthetics since Kant and Hegel circulates around the idea of representation and the image in the context of culture, history and subjectivity. Representation and experience of phenomena, as well as how to describe and understand it within different contexts, is in a general sense what any theory of art and aesthetics is all about. However, these matters are dealt with very differently in various theories, often (but not exclusively) depending on the focus of whether the theoretical and cognitive framing is situated in natural, social or human conditions – and this course will introduce you to some of the ways in which this is acted out in theories and art, primarily from the 20th century.
Literature:	Primary texts are to be found online (moodle) or in: Art in Theory 1900-2000. Background reading: Matei Calinescu: Five Faces of Modernity (Excerpts, Moodle).
Assessment:	Each lecture will be executed based on the analysis of one (or more) selected artwork(s) and one seminal theoretical text. You will be conducting the analysis and each class will finish with a written assignment designed to introduce you to the basic elements in analysing artworks (from different art genres and styles) and theoretical texts. One very special concern will be to focus on the use of language (your use of language), and the use of concepts and metaphors when talking and writing about art; how to describe artworks and how to use theory to further that practice of description into a critical discourse.

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Title 1:	Introduction: Theories of Art and Aesthetics
Lecturer(s):	Morten Søndergaard
Content:	Introduction to the focus and aim of the course
Assignments:	
Literature:	On Moodle: Primary: Gadamer. Aesthetics and Hermeneutics Background: Calinescu. Five Faces of Modernity

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Title 2:	Things other than pictures
Lecturer(s):	Morten Søndergaard
Content:	When resemblances disappear as criteria of representation, it allows for "full relativity of representation and for representation by things other than pictures". (Goodman) This lecture investigates this relativity further and tracks how things other than pictures not only enter into the practice of art works; it transforms our very notion of artistic practice and concept of art as well. In this way, art may be seen as a theatre of modernity – where the challenges and possibilities of relativity and complexity are driven to its extremes.

Assignments:

Literature: On Moodle: Goodman, N. (1959). "Art and the Understanding", in Goodman, Art and Language, pp. 225-232.  
Benjamin, W. (1934): "The Author as Producer"

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Title 3: The Body in Art and Aesthetics

Lecturer(s): Morten Søndergaard

Content: The body was largely alienated from philosophy and aesthetics in the 19<sup>th</sup> century. Therefore, at the turn of the 20<sup>th</sup> Century, only a few could predict that the human body would indeed become the centre of one of the most important transformations in theory as well as in artistic practice in the 20<sup>th</sup> Century. From the ideas of perception coming out of the philosophical discourses of phenomenology to the transient notion of the body as the vessel of interpretation (Nietzsche), as well as a new 'modern sensibility', a new and different interest of physical and sensuous 'reality' emerges. This lecture tracks this tendency in art and theory – from Paul Cezanne's paintings to body-performance

Assignments:

Literature: On Moodle: Merleau-Ponty, (1964). "Eye and Mind", In The Primacy of Perception.

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Title 4: The Unfinished Work of Art

Lecturer(s): Morten Søndergaard

Content: This lecture gives an introduction to one of the most significant positions in art theory of the late 20<sup>th</sup> Century: The 'open work'. Through a number of exercises, the students will familiarize themselves with the key-elements in the idea of the open work: Intention, context, interpretation, process, and performativity.

Assignments: Various. Bring an open mind!

Literature: On Moodle: Umberto Eco: The Poetics of the Open Work.

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Title 5: Pictures behind Pictures. On the Dialectics of Nature and Technology

Lecturer(s): Morten Søndergaard

Content: The emergence and power of 'new media' in the 90s and 00s led to a fundamental change in the way pictures are understood and interpreted 'as images'. This change led to a study of the status of the picture between nature and technology (Adorno) and of "the nature of seeing" (Boehm). This transformation of the 'picture' as a 'contextual image' in the practice and understanding of art is the subject-matter of this lecture.

Assignments:

Literature: On Moodle: Adorno: "Natural Beauty" in Adorno: Aesthetic Theory, pp.61-78; Gottfried Boehm: "Pictures Behind Pictures", lecture, 1994

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Title 6:	The Poetics of Space
Lecturer(s):	Morten Søndergaard
Content:	Literature and poetry informs the visual arts in many ways. The 'sister arts' are related in more than one way. Especially the faculty of creating mental images is shared according to Gaston Bachelard. This lecture will track the 'imaginary logos' in works and practices of artists and introduce to ways of analyzing the invisible elements that are structuring a world of images.
Assignments:	
Literature:	On Moodle: Bachelard, G. (1958). <i>The Poetics of Space</i> , chapter Introduction, pp.xv-xxxix.

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Title 7:	Aesthetics – a question of Beauty?
Lecturer(s):	Falk Heinrich
Content:	The lecture is an introduction to various notions of beauty and their significances for art and artistic projects. Beauty has been one of the most important aspects of art until the avant-garde of the 20 <sup>th</sup> century began to reject beauty. But what about art & technology projects?
Assignments:	
Literature:	McMahon, J. (2002) <sup>3</sup> Beauty <sup>2</sup> in ed. Gaut, Berys; Lopes, Dominic McIver. <i>The Routledge Companion to Aesthetics</i> . Routledge: London Freeland, C. (2001). <i>Art Theory</i> . Oxford University Press: Oxford Heinrich, F. (2008). <sup>3</sup> On the Beauty of Interactive Art <sup>2</sup> in <i>IJART</i> , Interscience Publisher Kant, I. (1995). <i>Analytic of the Beautiful</i> in Neill; Ridley ed. <i>The Philosophy of Art USA</i> , McGraw-Hill Comp.

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Title 8:	On the System of Art
Lecturer(s):	Falk Heinrich
Content:	The lecture circles around the paradoxical notion of the autonomy of art as a historic phenomenon. Art is seen as a specific historic social system within a broader societal field containing other social systems. It has its own foundational and inherent mechanisms and structures. This sociological perspective on (modern) art assigns specific meanings and functions to common notions like artwork, artist, recipient, etc. The lecture presents and discusses these notions in a systemic view and the significance for production and reception of art.
Assignments:	
Literature:	Luhmann, N. (2008). "The work of Art and the Self-reproduction of Art" in Harrison, C.; Wood, P. <i>Art in Theory 1900-2000</i> . Oxford: Blackwell Publishing. Further reading: Luhmann, N. (2000). <i>Art as a social system</i> (trans. Eva M. Knodt). Stanford, Calif. : Stanford University Press Roberts, D. (1997). <sup>3</sup> Paradox preserved: From ontology to autology. <i>Reflections on Niklas Luhmann's The Art of Society</i> <sup>2</sup> in <i>Thesis Eleven</i> 51: 53.