

# Template for Semester Descriptions of Study Programmes at Aalborg University

## ArT & Technology Semesterguide 4. semester

### Semester details

**Study board:** ArT & Technology

**Study regulations:** BA Study Program in Art & Technology, 2019:  
<https://studieordninger.aau.dk/2019/14/1128>

### Semester framework theme

#### Sustainable Places and Interactive Spaces

This semester's theme of Sustainable Places and Interactive Spaces will be explored through the creation of a collective, outdoor public exhibition of interactive installations at Karolinelund in Aalborg<sup>1</sup>. The design of each installation must target active or embodied participation by the audience through the use of mechanical or electronic technologies. Through either the interaction or aesthetic expression of each installation, students must highlight Aalborg's contributions to sustainability with respect to one of the UN's 17 Sustainable Development Goals<sup>2</sup>. Example goals include no poverty, gender equality, and climate action, among others. Participant interactions with each installation must be evaluated through a combination of qualitative and quantitative methods with respect to some targeted user group.

In connection with exhibiting in Karolinelund, students will be asked to adhere to policies outlined by the Aalborg city government and ensure that the site is returned to its original state following the exhibition. In order that this process is followed, a student-led committee will be created, with the coordinator acting as the mediator in communications with the city and the students acting as the responsible party for stakeholders.

<sup>1</sup> <https://www.aalborg.dk/om-kommunen/byplanlaegning/byudvikling/karolinelund>

<sup>2</sup> <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

### Semester organisation and time schedule

Students will be divided into groups of four to six individuals. Each group will work in close communication with their respective supervisor on a single project with the goal of creating an interactive installation that will be exhibited in a public space of Karolinelund. As part of their installation, each group is required to create a poster detailing the relevance of the project to the semester theme.

Student project reports must clearly present the motivation, design, implementation, and analysis of the created installation. The report should include the following sections:

#### ABSTRACT

A paragraph summarizing the main aspects of the project—context, problem, method, results, and insights.

#### INTRODUCTION

Provide the context of the project. What is the motivation for investigating this area?

## PROBLEM STATEMENT

Concisely state the problem explored in the project. It is also possible to provide a hypothesis to be supported or rejected through one or more experiments.

## BACKGROUND

This section contains all previous work related to the project and is an important aspect of any type of research. Identify previous related contributions and note both the importance and shortcomings of each in relation to the project work. Always reference reputable sources (i.e., peer-reviewed journals and books) and, when possible, primary sources (i.e., the original author of the work) to avoid misinformation.

## DESIGN METHODS

What specific academic and artistic methods are employed in this project? How will the interactions and the problem statement or hypothesis be tested? Identify at least one qualitative and one quantitative method in addition to the artistic methods used.

## IMPLEMENTATION

How was the final work developed and constructed? Include overall system diagrams, floor plans, scenic designs, renderings, illustrations and other supporting evidence for the installation and exhibition. Detail the most important aspects of the implementation and place any other material in the appendix. Ideally, a reader should be able to re-create the artifact based on the information in this section.

## ANALYSIS

Was the project successful? Support this with experimental data. If there was a hypothesis, do the experimental observations support or reject it?

## FUTURE WORK

Is there anything that could have been done better? How? If this project were to be developed further, what should be done next?

## CONCLUSION

This is not simply a summary of what has been done in the project, but should make connections to all aspects of the work and synthesize new insights. What can others learn from this research?

## REFERENCES

List of references following the APA referencing style.

## APPENDIX

Include all data here obtained during the project. This can include, for example, experimentation/observation logs, transcriptions of interviews, survey data, and source code. Note that the main text can reference the information in this section.

All figures, tables, and images in the report must be labeled with an explicit description and referred to in the main text. Students are also required to make a video documenting the final artifact and hand it in with the report.

All material in the report that is not the original creation of the students must be properly acknowledged using the APA referencing style. Failure to do so will be considered plagiarism and will lead to immediate failure and possibly also expulsion from the program.

**Semester coordinator and secretary assistance**

**Semester coordinator:** Brian Bemman

**Secretariat assistance:** Elsebeth Bækgaard

**Module description (description of each module)**

**Module title, ECTS credits**

Interaction Spaces in Art and Technology  
20 ECTS

**Location**

4. Semester

**Module coordinator**

Brian Bemman

**Type/Method and language**

Project work in groups  
English

**Learning objectives:**

The objective of the module “Interaction Spaces in Art and Technology” is to introduce students to problem areas and designing solutions in relation to embodied interaction in interactive spaces, places and installations.

During this module, students should acquire:

Basic KNOWLEDGE about

- creation of interactive spaces and installations that encourage embodied activity and an understanding of the situated locale
- technologies that support interaction and active participation
- mechanical and electronic technologies for the creation of experience and interaction
- qualitative and quantitative methods and tools for the processing of auditory, tactile and visual information for the support of active interaction by participants within the installation.

## SKILLS

- identifying and formulating an art problem within the theme “Interaction Spaces in Art and Technology” aimed at specific user groups or audiences
- analyzing the problem and developing alternative concepts for a defined problem within a defined context
- the application of audio and other technologies in connection with the design of content for interactive installations and spaces
- identifying, developing and describing the interaction between audio and spatial effects, choice of materials and technological solutions with a view to achieving clear aesthetic expressions and motivating embodied performance
- selecting appropriate methods in connection with the development of artefacts.

## COMPETENCES

### Competencies in

- the creation of interactive spaces and installations
- the use of interactive technologies, including control of media, light and sound
- contextualizing own artistic solutions (to state-of-art, socio-cultural requisites and consequences, art theoretical and aesthetic dimensions, etc.)
- describing the completed design at a professional level, and communicating this to external cooperation partners.

## Academic content

The module will be conducted as a series of experiments with interactive installations aimed at specific user groups or audiences in specific spatial contexts. This may be an urban place or stage, architectural setting, a community environment, an exhibition space, etc., where artistic installations are created and tested in relation to providing participant experiences of various kinds, which may be the orchestration of social relations, learning experiences, sensory and aesthetic experiences, action-reaction patterns, or similar.. Various interactive technologies and embedded intelligence systems are investigated and applied in order to create the desired effects.

### Courses:

In connection with the module, the following courses will be offered:

- Interaction Spaces in Art and Technology
- Artistic and Academic Methodology IV

Other courses may be offered within the following areas:

- Interaction Design
- Audio Design
- Digital Representation II

## Scope and expected performance

20 ECTS credits. 1 ECTS credit = 27,5 hours of work. 20 ECTS = 550 hours of work consisting of preparation for course sessions, course participation, group work, exercises, counselling and exams.

## Module activities (course sessions etc.)

### Course: Aesthetics and Interaction (1 ECTS)

Lecturer: Markus Löchtefeld

**Purpose and Goals:** In this course, we will discuss different approaches for novel interactions in public places with the hidden data-layer of smart cities. These will include crowd engagement through public displays and media facades. Furthermore, we will look into evaluation of public installations and theories connected to them.

Assessment: Assessment will be based on a presentation of the final semester module projects

**Lecture 1 – Urban Interaction**

Lecturer: Markus Löchtefeld

With the recent push towards smart cities not only a variety of new data about the city and its inhabitants will be available, but also new interaction possibilities will emerge. We will discuss and explore novel sensors and actuators for smart cities and how they can be utilized to enable smart civics to become an active part in the city life.

**Assignment(s):**

We will have exercises from material covered that are required to be completed in class and/or before next session.

**Literature:**

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Townsend, A. M. (2013). Smart cities: big data, civic hackers, and the quest for a new utopia. WW Norton & Company.		30	yes
Brynskov, M., Carvajal Bermúdez, J. C., Fernández, M., Korsgaard, H., Mulder, I. J., Piskorek, K., & De Waal, M. (2014). Urban Interaction Design: Towards City Making.		96	yes

**Lecture 2 – Public Displays**

Lecturer: Markus Löchtefeld

In this lecture we will discuss opportunities and challenges raised by the emergence of pervasive display systems as a new communication medium for public and semi-public spaces. Besides technological challenges we will explore how to engage passers-by into meaningful interactions with public displays.

**Assignment(s):**

Exercises from material covered that are required to be completed in class and/or before next session

**Literature:**

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Müller, J., Alt, F., Michelis, D., & Schmidt, A. (2010, October). Requirements and design space for interactive public displays. In Proceedings of the international conference on Multimedia (pp. 1285-1294). ACM.	10		yes
Alt, F., Schneegaß, S., Schmidt, A., Müller, J., & Memarovic, N. (2012, June). How to evaluate public displays. In Proceedings of the 2012 International Symposium on Pervasive Displays (p. 17). ACM.	10		yes
Müller, J., Walter, R., Bailly, G., Nischt, M., & Alt, F. (2012, May). Looking glass: a field study on noticing interactivity of a shop window. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (pp. 297-306). ACM.		10	yes

### Lecture 3 – Media Facades

Lecturer: Markus Löchtefeld

Media facades are a special category of public displays and a prominent example of the digital augmentation of urban spaces. They denote the concept of turning the surface of a building into a large-scale urban screen. Due to their enormous size and the highly dynamic urban environment around them, they require special interaction techniques. In this course we will establish the foundation for the design for such urban interactions as well as how to prototype and create ad-hoc media facades.

#### Assignment(s):

Exercises from material covered that are required to be completed in class and/or before next session

#### Literature:

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Behrens, Moritz, and Duncan P. Brumby. "Designing Media Architectural Interfaces for Interactions in Urban Spaces." Citizen's Right to the Digital City. Springer Singapore, 2015. 55-77.	22		yes
Gehring, Sven, and Alexander Wiethoff. "Interaction with media façades." Informatik-Spektrum 37.5 (2014): 474-482.	8		yes

**Lecture 4 – Tangible User Interfaces**

Lecturer: Markus Löchtefeld

Tangible User Interfaces (TUIs) allow for effective and easy interaction with digital information by encapsulating them into a physical form. We will learn from examples how to create and evaluate TUIs. We will discuss different technologies and prototyping materials to easily develop TUIs.

**Assignment(s):**

Exercises from material covered that are required to be completed in class and/or before next session

**Literature:**

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Ishii, H., Lakatos, D., Bonanni, L., & Labrune, J. B. (2012). Radical atoms: beyond tangible bits, toward transformable materials. <i>interactions</i> , 19(1), 38-51	8		yes
Wiethoff, A., Schneider, H., Rohs, M., Butz, A., & Greenberg, S. (2012, February). Sketch-a-TUI: low cost prototyping of tangible interactions using cardboard and conductive ink. In <i>Proceedings of the Sixth International Conference on Tangible, Embedded and Embodied Interaction</i> (pp. 309-312). ACM.	8		yes

**Course: Artistic and Academic Methodology IV (2 ECTS)**

Lecturer: Anthony Brooks

**4 x double lectures**

The below informs of questions/themes/topics being addressed and which activities will be part of the lecture series sessions.

**Lectures 1+2: Location XLab – Lecturer Tony Brooks**

This session introduces the main components of the IxD subject, key features of the design process and how these are applied to different types of system. Topics covered include: What is Interaction Design? Human-Computer Interaction in Interaction Design; Interaction Design techniques; sensor profiles; Designing Virtual Interactive Space; Why (and how) background subtraction in interactive design; Designing for overcoming dynamic lighting noise problems in tracking in interaction design/art; Analogizing within interactive design; Five dimensions of interaction design; What Designers Do; Perceptual binding in IxD; IxD art examples via CasaPaganini group. Interaction Design Cycle. Personas within stakeholder groups at site; Storyboarding & scenarios; Understanding including requirements; PACT analysis

	Primary - pages	Secondary – pages	Uploads

	(pp)	(pp)	
<p>Designing Interactive Systems A comprehensive guide to HCI and interaction design (4th ed): David Benyon – Pearson  <a href="https://www.academia.edu/34659177/">https://www.academia.edu/34659177/</a></p> <ul style="list-style-type: none"> <li>• Ch 1 Designing interactive systems: A fusion of skills 6-25</li> <li>• Ch 2 PACT: A framework for designing interactive systems 26</li> <li>• Ch 3 The process of human-centred interactive systems design 49</li> <li>• Ch 4 Usability 79</li> <li>• Ch 5 Experience design 97</li> <li>• Ch 6 The Home Information Centre (HIC): A case study in designing interactive systems</li> </ul>	109		
Linda Candy and Ernest A Edmonds “Supporting the creative user: a criteria-based approach to interaction design” – Design Studies 18 (1997) pp. 185-194		9	
Paper Prototyping as a Core Tool in Design - <a href="http://www.id-book.com/casestudy_11-1_2.php">http://www.id-book.com/casestudy_11-1_2.php</a>		np	
What is Interaction Design? <a href="https://www.interaction-design.org/literature/article/what-is-interaction-design">https://www.interaction-design.org/literature/article/what-is-interaction-design</a>		np	

**Lectures 3+4: Location R14 – Lecturer Tony Brooks**

This session builds upon previous by introducing techniques for understanding and designing. The session considers techniques for understanding the requirements of interactive systems, envisioning, prototyping and evaluating design ideas. A more formal approach to conceptual and physical design is included along with a detailed presentation of interface design aligned to development of a conceptual framework. This covers design for both abstract and physical.

Topics include: Interaction Design and Sustainability 1; Interaction Design aspects of Affordances, Signifiers, Constraints, Feedback, Mappings; Sustainable HCI & Sustainable IxD (sHCI and SID) – \*Students present their initial sketches of installations (sustainability focus).

	Primary - pages (pp)	Secondary – pages (pp)	Uploads
<p>Designing Interactive Systems A comprehensive guide to HCI and interaction design (4th ed): David Benyon –  <a href="https://www.academia.edu/34659177/">https://www.academia.edu/34659177/</a></p> <ul style="list-style-type: none"> <li>• (7) Understanding 146-175</li> </ul>	29 + 21		



<ul style="list-style-type: none"> <li>(8) Envisionment 176-197</li> </ul>			
Interactivity – A Word in Process by Katja Kwastek in C. Sommerer et al. (Eds.): The Art & Sci. of Interface & Inter. Des., SCI 141, pp. 15-26, 2008. springerlink.com © Springer-Verlag Berlin Heidelberg 2008		11	
Norman's Principles of Interaction - <a href="https://www.csun.edu/science/courses/671/bibliography/preece.html">https://www.csun.edu/science/courses/671/bibliography/preece.html</a>		1	
Sustainable HCI: Blending permaculture and user-experience. - Callum Egan & David Benyon – 2017 <a href="file:///Users/tb/Downloads/DIS-WIPfinalcopy.pdf">file:///Users/tb/Downloads/DIS-WIPfinalcopy.pdf</a>		5	

#### Lectures 5+6: Location R14 – Lecturer Tony Brooks

This session builds upon previous session materials to focus upon prototyping and design patterns aligned to applied actual realised art (installation, performance etc). Topics include: Artist's insight (IxD and beyond) – from ideation, through process, to outcome; Interaction Design Patterns; Techniques for IxD; Nature of Interaction; Interactive visuals; Strategies of interactivity; Live improvisation in IxD...

	Primary - pages (pp)	Secondary – pages (pp)	Uploads
Designing Interactive Systems A comprehensive guide to HCI and interaction design (4th ed): David Benyon – Pearson <a href="https://www.academia.edu/34659177/">https://www.academia.edu/34659177/</a>	25		
<ul style="list-style-type: none"> <li>(9) Design 199-224</li> </ul>			
Strategies of Interactivity: Dieter Daniels in C. Sommerer et al. (Eds.): The Art & Sci. of Interface & Inter. Des., SCI 141, pp. 27-62, 2008. Springer-Verlag Berlin Heidelberg		25	
Frieder Weiss' (The Nature of Interaction) <a href="https://www.frieder-weiss.de/eyecon/Manual/Essay/rw-essay-interaction.htm">https://www.frieder-weiss.de/eyecon/Manual/Essay/rw-essay-interaction.htm</a>	1		
**Prepare for this double lecture by viewing 3-part documentary Four Senses  (part 1) <a href="https://www.youtube.com/watch?v=gTjvCh-XB2o">https://www.youtube.com/watch?v=gTjvCh-XB2o</a>	8		

(part 2) <a href="https://www.youtube.com/watch?v=iDX8K6Vq4kk">https://www.youtube.com/watch?v=iDX8K6Vq4kk</a>			
(part 3) <a href="https://www.youtube.com/watch?v=RmiWYTytf_0">https://www.youtube.com/watch?v=RmiWYTytf_0</a> plus read method for including olfactory stimulus in IxD performance/installation example - Performance Research 8(3), pp.104–112 - <a href="https://www.academia.edu/35678183/Olfactory_Translations_and_Interpretations">https://www.academia.edu/35678183/Olfactory_Translations_and_Interpretations</a>			

**Lectures 7+8: Location R14 – Lecturer Tony Brooks**

This session builds upon previous session materials to focus upon testing, iterations, refinements and evaluations- including usability, heuristics, field studies (ethnography) etc., Topics include: Stakeholder collaboration in IxD; Design and sustainability 2; IxD Instrument Digital Interface language exemplified and extended; Methods; **\*\*Students present** their refined presentations of proposed installation ideas (sustainability IxD focus + Scenarios + Personas + Stakeholders...).

	Primary - pages (pp)	Secondary – pages (pp)	Uploads
Designing Interactive Systems A comprehensive guide to HCI and interaction design (4th ed): David Benyon – Pearson <a href="https://www.academia.edu/34659177/">https://www.academia.edu/34659177/</a>	24 + 33 + 23		
Designing for User Experience: Aesthetic, Engaging and Attractive User Interfaces - Alistair Sutcliffe  <a href="https://www.researchgate.net/publication/220696087_Designing_for_User_Engagement_Aesthetic_and_Attractive_User_Interfaces/link/5673c9c708aee7a427458b84/download">https://www.researchgate.net/publication/220696087_Designing_for_User_Engagement_Aesthetic_and_Attractive_User_Interfaces/link/5673c9c708aee7a427458b84/download</a>		63	

Additional materials (optional):

*Students click on the links below to access the following resources for Benyon book:*

**Study Notes Chapter 1 [Study Notes for Chapter 1](#)**

**Study Notes Chapter 2 [Study Notes for Chapter 2](#)**

**Study Notes Chapter 3 [Study Notes for Chapter 3](#)**

**Study Notes Chapter 4 Study Notes for Chapter 4**

**Study Notes Chapter 5 Study Notes for Chapter 5**

**Study Notes Chapter 6 Study Notes for Chapter 6**

**Study Notes Chapter 7 Study Notes for Chapter 7**

**Study Notes Chapter 8 Study Notes for Chapter 8**

**Study Notes Chapter 9 Study Notes for Chapter 9**

**Study Notes Chapter 10 Study Notes for Chapter 10**

**Study Notes Chapter 14 Study Notes for Chapter 14**

**Study Notes Chapter 15 Study Notes for Chapter 15**

**Supplemental recommended reading:**

Spaces of Interaction, Places for Experience – David Benyon -

[https://www.researchgate.net/publication/274715399\\_Spaces\\_of\\_Interaction\\_Places\\_for\\_Experience/link/58ef99e2a6fdccd778075832/download](https://www.researchgate.net/publication/274715399_Spaces_of_Interaction_Places_for_Experience/link/58ef99e2a6fdccd778075832/download)

The Art of Interaction, Ernest A Edmonds: [https://www.bcs.org/upload/pdf/ewic\\_create10\\_keynote3.pdf](https://www.bcs.org/upload/pdf/ewic_create10_keynote3.pdf)

The Art of Interaction: What HCI Can Learn from Interactive Art, Ernest A Edmonds,

Human Computer Interaction, Art and Experience by Ernest A. Edmonds In L. Candy and S. Ferguson (eds.), Interactive Experience in the Digital Age: Evaluating New 11 Art Practice, Springer Series on Cultural Computing, DOI 10.1007/978-3-319-04510-8\_2,

**Course: Digital Representation III (2 ECTS)**

Lecturer: Peter Skotte

**Assignments:**

Using (program to be determined on students competency) to setup both simple exterior models, as well as complex sets, build a simple geometry virtual model of your intended installation. Add animation layers of the intended interaction. Students will do practical exercises on the methods presented in the lecture.

**Assessment:**

Satisfactory completion of assignments given during the course. These assignments should be shown or submitted to the course-leader. The progress will be evaluated on a course by course way.

**Literature:**

	Pri. lit.	Sec. lit.	Dig.
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	no of p.	no of p.	upload
Maya Online help centre: <a href="https://knowledge.autodesk.com/support/maya/learn-explore?sort=score">https://knowledge.autodesk.com/support/maya/learn-explore?sort=score</a>			
The Art of 3D Computer Animation & Effects, Fourth Edition – Isaac Kerlow <a href="http://eu.wiley.com/WileyCDA/WileyTitle/productCd-0470084901,subjectCd-CSC0.html">http://eu.wiley.com/WileyCDA/WileyTitle/productCd-0470084901,subjectCd-CSC0.html</a>  ISBN: 978-0-470-08490-8			

### Examination

Oral exam based on a project  
Hand in: Individually or in groups.

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 report or portfolio as well as the product created by the student. The project exam will also address other content from the module courses.

Form of examination: b)

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 per student and 10 minutes for assessment and communication of grades per group, however, the duration of the examination is maximum 2 hours.

The assessment is made of the individual student based on the learning objective. The assessment must also be based on an overall evaluation of the project report, the presentation, the joint discussion and the individually oriented questions. In order for the examinee to pass the exam, all these aspects must be satisfactory. The project report is thus part of the overall basis for the assessment, and is not given an independent grade

Evaluation: Grading according to the 7-point scale.

Type of grading: External examination.

Credits: 20 ECTS

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

### Module description (description of each module)

#### Module title, ECTS credits

Art in Context II  
5 ECTS

#### Location

4. Semester

<p><b>Module coordinator</b> Elizabeth A. Jochum</p>
<p><b>Type/Method and language</b> Individual work in relation to course activities English</p>
<p><b>Learning objectives:</b> During this module, students should acquire:</p> <p>Basic <b>knowledge</b> about</p> <ul style="list-style-type: none"> <li>• media theory and media art theory</li> <li>• central concepts relating to the cross-disciplinarity and synergy between art and media technology</li> <li>• various methods of analysis of media art works in regard to their cultural, personal, aesthetic and epistemological significance</li> <li>• theories of audience involvement and engagement as they relate to media art works</li> <li>• audience and user concepts of media art and the related behavioral and aesthetic preferences.</li> </ul> <p><b>Skills</b> in</p> <ul style="list-style-type: none"> <li>• using and applying basic theories and methods when analysing media art works</li> <li>• describing artistic challenges and aesthetic formats of media art</li> <li>• analysing audience involvement in media art works.</li> </ul> <p><b>Competencies</b> in</p> <ul style="list-style-type: none"> <li>• applying theories and methodologies of media art</li> <li>• analysing and discussing media art works as cultural and aesthetic phenomena.</li> </ul>
<p><b>Academic content</b></p> <p>The module "Art in Context II" examines media art works and their cultural, aesthetic, social, and technological positions in the 20th and 21st centuries. Together with Art in Context I, the module introduces the students to the academic and theoretical contexts of the fields of media theory and art and technology. Through different teaching formats such as lectures, workshops, study-trips, and seminars, the students will learn how to apply theories when analyzing media art works.</p>
<p><b>Scope and expected performance</b></p> <p>5 ECTS credits. 1 ECTS credit = 27,5 hours of work. 5 ECTS = 137,5 hours of work consisting of preparation for course sessions, course participation, group work, exercises, counselling and exams.</p>
<p><b>Module activities (course sessions etc.)</b></p> <p><b>Course: Art in Context II</b></p> <p>This course serves as a general introduction to art and technology as a theoretical field of study. As such it continues the trajectory of Art in Context 1, however this semester with a focus on media art before and after the 'digital revolution'. Whereas the theories and humanistic themes of perception, hermeneutics, phenomenology, systems, imagination, and beauty introduced in AiC 1 are still very relevant for the study of art they tend to be challenged and criticized when technology, science and media enters the scene. From this, different theoretical and artistic practices emerge that not only circulate ideas about technology, science and media into critical thinking but also take up new paths of investigations and methods.</p> <p>The course is structured around eight interconnected lectures focused on giving the students an introduction to different seminal theories, practices and ideas accompanying the still more intensive relationship between art, technology, media and science in the 20<sup>th</sup> and 21<sup>st</sup> Century – in short, here, termed Media Art.</p>

## Lesson 1: Introduction to New Media Art Theory

Lecturer: Elizabeth Jochum

What is media art theory? What is media studies? How do the two topics relate to the critical study of art and technology? This course will give the student an overview of the most important theories within the expanding field of media art. In this introductory lecture some basic concepts and theoretical problems in the critical study of media art.

Walter Benjamin's seminal text about art in the age of technological reproduction: Authenticity, the subject of technology, and mediated (social) experience. And within this overall new direction of the modern culture, the lecture will also be looking at what aesthetic paradigms are at play in media art.

### Literature:

	Mandatory litt. Number of pages	Additional litt. Number of pages	Dig. upload
Rush, M. (1999) <i>New Media in Late 20<sup>th</sup> Century Art</i> : Introduction (pp. 7-35) ( <a href="#">pdf</a> )	28		X
Benjamin, W. (1935) "The Work of Art in Age of Mechanical Reproduction" (trans. Harry Zohn) ( <a href="#">pdf</a> )	4		X
Benjamin FULL TXT ( <a href="#">pdf</a> )	26		X

## Lesson 2: New Materialisms in Media Art History and Theory

Lecturer: Elizabeth Jochum

### Literature:

	Mandatory litt. Number of pages	Additional litt. Number of pages	Dig. upload
"The Work of Art in the Age of Digital Reproduction (Douglas Davis) ( <a href="#">pdf</a> )	10		X
Cubitt, S & Thomas, P. (2013) <i>The New Materialism in Media Art History</i> . (pp. 1-22) ( <a href="#">pdf</a> )	22		X

## Lesson 3: *The Medium is the Message*

Lecturer: Elizabeth Jochum

Marshall McLuhan described the shift from book-culture to electronic media, and his theories are the foundations of media art theory that seek to describe the transition from analog to digital media, and the impact of this transition on the art world, culture, and society at large. McLuhan articulates how media have transformed relationships and social organisations in culture and society. Building on the students' prior familiarity with McLuhan (the movement from age of typography to the age of television), we look at the personal and social consequences of new media and technological tools, investigating McLuhan's assertion that "the clearest way to see through a culture is to attend to its tools for conversation."

### Literature:

	Mandatory litt. Number of pages	Additional litt. Number of pages	Dig. upload
McLuhan, M. <i>The Medium is the Message</i> (excerpt) ( <a href="#">pdf</a> )	19		X
Gordon, W. (2014). <i>McLuhan: A Guide for the Perplexed</i> ( <a href="#">pdf</a> )		35	X

#### Lesson 4: Video Art and Theories of Technology, Art and Society

Lecturer: Elizabeth Jochum

Media technologies are central to contemporary social life, and emergent technologies and media are being developed for a generation that has grown up with the Internet and accelerated development of electronic technologies.

##### Literature:

	Mandatory litt. Number of pages	Additional litt. Number of pages	Dig. upload
Rush, M. (1999) <i>New Media in Late 20<sup>th</sup> Century Art</i> : Ch 2: Video (pp 116-167) ( <a href="#">pdf</a> )	51		
Williams, R. (19XX) <i>The Technology and The Society</i> ( <a href="#">pdf</a> )	12		X

#### Lesson 5: Theories of Interaction in New Media Art

Lecturer: Elizabeth Jochum

The concept of interaction in media art has developed beyond a purely technological paradigm. What are the principles of interaction and interactive art? How do these principles manifest in public art and public spaces? This lesson looks at the history of interactive art with a focus on first and second generations responsive environments, systems aesthetics, and performative interfaces and spaces created by media artists. We consider contemporary art works and new tools (such as locative media) that promote interaction and immersion, including VR, AR, A-life, and generative computing.

##### Literature:

	Mandatory litt. Number of pages	Additional litt. Number of pages	Dig. upload
Krueger, M. (1977) <i>Responsive Environments</i> ( <a href="#">pdf</a> )	13		X
Kluszczyński, R. (2010) <i>Strategies of Interactive Art</i> ( <a href="#">pdf</a> )	27		X
Hansen, Mark. (2012) <i>Bodies in Code: Interfaces with Digital Media</i> ( <a href="#">pdf</a> )	30		X

#### Lesson 6: Remediation

Lecturer: Elizabeth Jochum

Remediation: The beginning of the 21<sup>st</sup> century was marked by the rapid developments of new digital media and rapid response by traditional media (film, print, television) to reaffirm their relevance. This course introduces students to the theories of remediation and hypermediacy, as articulated by Bolter and Grusin, that seek to explain the complex entanglement of processes, tools, and techniques between analog and digital media in the search for liveness and immediacy.

**Literature:**

	Mandatory litt. Number of pages	Additional litt. Number of pages	Dig. upload
Bolter, J.D. & Grusin, R. (2000) <i>Remediation</i> Ch 1: Immediacy, Hypermediacy, and Remediation (pp.20- 50) ( <a href="#">pdf</a> )	30		X
Salter, C. (2010) <i>Entangled</i> . Ch 8: Interaction ( <a href="#">pdf</a> )		52	X

**Lessons 7, 8 & 9: Field Studies – Analysing Media Art In Context (Aros Museum)**

Lecturer: Elizabeth Jochum

We will travel together on to visit Aros Museum in Aarhus.

Detailed plan of the day will follow.

**Assignment:**

Students will work in groups, choosing a specific art work or context to analyse. You will need pen and paper to make notes and maybe sketch!

- a. When chosen, start by describing the art work individually before discussing it further in the group. Write it down! What words come to mind first when looking and listening to the art work. Use elaborate words that may describe this best!
- b. Then present to each other your descriptions. Discuss and construct a collective description – if there is disagreement note it down and play along with that! Allow words to act as metaphors.
- c. Identify at least one theoretical source (text) from the course reading that could help you turn your description into an analysis (i.e, Dewey's notion that 'art is the experience of making or encountering the object'). Start by paraphrasing the central theoretical idea and ask the question: where, in the art work you are looking at / listening to / describing could that theoretical idea be helpful to clarify or critically reflect on the artistic idea / representation? (if you have time) Does the art work stand alone or is it depending on contextual constraints for that clarification / reflection to happen?
- d. Now, turn your attention to the context. What contexts to the art work do you detect? Are they interacting or opposing each other?

The day will culminate with the groups presenting in front of chosen art works / elements /situations. The presentation and analysis should draw on theories, either from the study in general or the AiC course. It may also include other relevant examples and theories.

**Literature:**

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload



Whitehead, Christopher (2012): Interpreting Art in Museums and Galleries, London/New York: Routledge.	30		X
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### Lesson 10: Evaluating Interactive Experience in Media Art

The use of interactive technology in the arts has changed the audience from viewer to participant and in doing so is transforming the nature of experience. From visual and sound art to performance and gaming, the boundaries of what is possible for creation, curating, production and distribution are continually extending. As a consequence, we need to reconsider the way in which these practices are evaluated.

#### Literature:

	Mandatory litt. Number of pages	Additional litt. Number of pages	Dig. upload
Candy & Edmonds (2014) Ch 2: Human Computer Interaction, Art and Experience ( <a href="#">pdf</a> )	13		X
Salter, C. (2010) Entangled. Ch 8: Interaction ( <a href="#">pdf</a> )		52	X

#### Examination

Written exam.

Form of examination: c)

Hand in: Individual.

The examination is a 7-day assignment on a set subject. The examiner and an additional internal examiner according to 7-point scale evaluate the assignment.

ECTS: 5

Number of pages: the written work must not exceed 10 pages.

Type of grading: Internal examination.

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

#### Module description (description of each module)

##### Module title, ECTS credits

International Collaboration  
5 ECTS

##### Location

4. Semester

<b>Module coordinator</b> Morten Søndergaard			
<b>Type/Method and language</b> Group work in relation to course activities and seminars English			
<b>Learning objectives:</b> During this module, students should acquire:  Basic KNOWLEDGE about <ul style="list-style-type: none"> <li>• theories and methods of collaborative and networked creativity</li> <li>• the influence of globalization on media art</li> <li>• technological conditions and solutions of collaborative work.</li> </ul> SKILLS Skills in <ul style="list-style-type: none"> <li>• creating conceptual and technological frameworks for collaboration</li> <li>• devising concrete methods of collaboration on the basis of existing methodologies in the field.</li> </ul> COMPETENCES  Competencies in <ul style="list-style-type: none"> <li>• analyzing existing conditions of collaboration including analysis of user groups and participating institutions</li> <li>• reflecting on present cultural-historical and media technological conditions and prospective solutions of international collaboration.</li> </ul>			
<b>Academic content</b>  The module “International Collaboration” is a theoretical and practical introduction to methods of collaboration with international art institutions and/or art and design companies, and its possibilities and challenges. The students learn how to organize and implement an international collaborative project. The teaching format is a workshop. The project is supported by relevant literature and case studies that thematizes and discuss central ideas such as globalization, networked culture, and collaborative creativity.			
<b>Scope and expected performance</b>  5 ECTS credits. 1 ECTS credit = 27,5 hours of work. 5 ECTS = 137,5 hours of work consisting of preparation for course sessions, course participation, group work, exercises, counselling and exams.			
<b>Module activities (course sessions etc.)</b>  <b>Literature:</b>			
	Mandatory litt. Number of pages	Additional litt. Number of pages	Dig. uploaded
Howard S. Becker (1982): Art Worlds. Berkeley: University of California Press, pp 1-40, 131-165 & 300-351.	39	60	x
Hans van Maanen (2009): How to Study Art Worlds, Amsterdam University Press, pp 7-14, pp 31-52, 83-104. Permalink: <a href="https://www.jstor.org/stable/j.ctt46n0p3.3">https://www.jstor.org/stable/j.ctt46n0p3.3</a>	7	40	x

Geert Lovink (2018): Organization After Social Media, Minor Compositions Press, pp 30-43	13		x
Dieter Daniels: Transmediale Unformatted. A (pre)history of thirty years or more. Transmediale Journal, <a href="https://transmediale.de/content/transmediale-unformatted-a-pre-history-of-thirty-years-or-more">https://transmediale.de/content/transmediale-unformatted-a-pre-history-of-thirty-years-or-more</a> , 4 pages	15		x
Bishop, Ganising, Parikka (2016): "Across and Beyond: Post-digital Practices, Concepts, and Institutions" in: Bishop et.al. (eds), <a href="#">Across &amp; beyond – A transmediale Reader on Post-digital Practices, Concepts, and Institutions</a> , Sternberg Press and transmediale e.V., pp 1-10, 10 pages. Url: <a href="https://transmediale.de/content/across-and-beyond-post-digital-practices-concepts-and-institutions">https://transmediale.de/content/across-and-beyond-post-digital-practices-concepts-and-institutions</a>	10		x
Jussi Parikka (2016): The Lab Imaginary, Transmediale Journal, <a href="https://transmediale.de/content/the-lab-imaginary-speculative-practices-in-situ">https://transmediale.de/content/the-lab-imaginary-speculative-practices-in-situ</a>	5		x
Fiona Shipwright (2018): Turtles All the Way Down—Or, Escape from Infrastructure. Transmediale Journal, <a href="https://transmediale.de/content/turtles-all-the-way-down-or-escape-from-infrastructure">https://transmediale.de/content/turtles-all-the-way-down-or-escape-from-infrastructure</a>	10		x
Cornelia Solfrank (2016): Revisiting the Future. Transmediale Journal, <a href="https://transmediale.de/content/revisiting-the-future">https://transmediale.de/content/revisiting-the-future</a>		18	x
Raymond William's concept of (and analytical method in) Structures of Feeling, Oxford University Press Reference Dictionary: <a href="http://www.oxfordreference.com/view/10.1093/oi/authority.20110803100538488">http://www.oxfordreference.com/view/10.1093/oi/authority.20110803100538488</a> .		2	x
Grosz, David (2008). "Art & Democracy. Boris Groys Interview." Artinfo. <a href="http://www.artinfo.com">http://www.artinfo.com</a> . Accessed 10. January 2020.	10		x
Baumann, Zygmunt (2000). "Some notes on the historical peregrinations of the concept of culture" from: Liquid Modernity, Polity.	12		x
Belting, Hans (2009). "Contemporary Art as Global Art - A Critical Estimate" in Belting H and Buddensieg A. (Eds). The global art world: audiences, markets, and museums. Hatje Kantz	12		x

**Complimentary (not part of the course) Study-trip to Transmediale in Berlin 28 January – 3 February 2019**

"One of the contemporary challenges is how to be critical and affirmative at the same time while avoiding ... oversimplifications." (Transmediale, conceptual theme-statement, 2019. <https://2019.transmediale.de/theme>)

This year, we will visit the Transmediale Festival (which is combined with the CTM festival of electronic music) in Berlin.

Transmediale is one of the major platforms and scenes of international collaboration in the field of art and digital culture, which since 1988 has offered critical perspectives on approaches to the intersections and entanglements of art, technology, sciences and humanities. As they write:

“Transmediale is a yearly festival and cultural organisation that facilitates critical reflection on and interventions into processes of cultural transformation from a post-digital perspective. In bringing together artists, researchers, activists, and thinkers transmediale offers new perspectives and approaches on how the digital and a general technological condition has become a factor of influence in practically all spheres of life.” (from <http://transmediale.de>)

Program - to be updated:

28. January: Arrival in Berlin. Evening: Opening of Transmediale exhibition.

29. January: Morning Meeting. Place: tba, everyone. Evening: Joint dinner?

30. January: Morning meeting together w MediaAC students. Transmediale Festival/Conference. Visit to CTM exhibition, everyone + then: tba other events.

1. February: Morning meeting w MediaAC students. Transmediale Festival/Conference tba. Visiting other sites.

2. February: Departure to Aalborg

### **Lesson 1: Art Worlds – An Introduction**

Lecturer: Morten Søndergaard

Art does not happen out of nothing. It is a result of collaborative processes and practices, which bring together a number of different competencies and skills across many disciplines. Art production is highly framed and contextualized by a number of constraints and personas, institutions, the marked, curators, critics, copyright. This lecture will present and the sociological concept of ‘art worlds’ (Becker) and the key elements of collaboration practices at work here.

Literature:

Howard S. Becker (1982): Art Worlds. Berkeley: University of California Press, pp 1-30.  
Moodle upload

Hans van Maanen (2009): How to Study Art Worlds, Amsterdam University Press, pp 7-14 & pp 31-52. Permalink: <https://www.jstor.org/stable/j.ctt46n0p3.3>

## **Lesson 2: Art Worlds II – Art and Technology?**

Lecturer: Morten Søndergaard

Lecture: Technology does not change the basics of how the art worlds work, but add new ways of collaborate and networking, as well as intensifies the pressure of mediation of art into all aspects of life. And it makes it possible for art worlds to act and collaborate in a global scale. But it comes with a price: a still closer entanglement with a dominant cultural industry and big business. As a response, different ways of counter this technological dominance emerge in various corners of the media art world even, media art itself can be seen as an organized network of international collaboration that defies the mainstream masks of cultural industry to establish other ways of produce and innovate perception, meaning and values. Last year, Transmediale looked at the 'structures of feeling' (Raymond Williams) involved in cultural production and turns attention towards the ability to produce rather than merely represent and communicate crisis. This lecture will discuss this premise and strategy, as well as showcase some of the organized networks of international collaboration operationalizing art and technology as a critical tool for political and cultural reflection, which have been emerging lately.

Literature:

Howard S. Becker (1982): Art Worlds. Berkeley: University of California Press, pp. 131-165  
Geert Lovink: Organization After Social Media, Minor Compositions Press, 2018, pp 30-43

Hans van Maanen (2009): How to Study Art Worlds, Amsterdam University Press, pp 83-104. Permalink: <https://www.jstor.org/stable/j.ctt46n0p3.3>

S. Zielinski (2006): A Deep Time of the Media: Toward an Archaeology of Hearing and Seeing by Technical Means, Introduction

Article on Raymond William's concept of (and analytical method) Structures of Feeling, Oxford University Press Reference Dictionary:

<http://www.oxfordreference.com/view/10.1093/oi/authority.20110803100538488>. Notice the links to other resources explaining uses of this analytical method in other research fields.

### **The Reflective Art & Tech Practitioner. Design-based Research Methods**

Morten Søndergaard

Aktivitet:

- Brief introduction to Design Based Research Methods - DBR
- A general introduction to idea generation and 'problem' setting.
- Pragmatism as explorative setting - presentation of the problem setting/solving.
- Introduction to the concept of practice and the epistemology of the hand (jf texts by Brinkmann &

Tanggaard) Planning fieldwork and exploration of art & tech platforms in groups

Purpose:

To clarify purpose and frame the problem of the course

Litteratur:

This article introduces a pragmatic approach to researching and understanding which flows through the organization of the semester modules and thus informs your work on all modules:

Brinkmann, S., & Tanggaard, L. (2010). Toward an epistemology of the hand. *Studies in philosophy and education*, 29(3), 243-257.

This text provides an introduction to 'critical design', which we will deal with throughout - both as a method, but also to understand and analyze the problem:

Dunne, A., & Raby, F. (2013). "Chapter 3: Design as Critique" in *Speculative everything: design, fiction, and social dreaming*. MIT Press.

You will work with sketching / sketching as an idea and as a communication tool as part of the pragmatic approach in design development. This article introduces how you can also use drawing as a methodical tool in your fieldwork and observations:

Causey, A. (2017). *Drawn to see: drawing as an ethnographic method*. Toronto: University of Toronto Press. Introduktion s.1-24

This article (in Danish, sorry) provides an introduction to using photographic notes with 'thick descriptions'. You should use it to prepare visits to museums and other venues later in the semester:

Rasmussen, K. (2007). Sociologens fotografiske feltnoter. Et bidrag til "thick description"?. *Sociologi i dag*, 37(1). <http://ojs.novus.no/index.php/SID/article/viewFile/921/915>

Additional methodological litteratur:

Goldkuhl, Göran (2012) Pragmatism vs interpretivism in qualitative informatin systems research. *European Journal of Information Systems* 21. (p.135-146).

Schön, Donald A. (1983) *The Reflective Practitioner. How Professionals Think In Action*. Basic Books.

Geertz, C. (1973). Thick Description: Toward an Interpretative Theory of Culture. In *The Interpretation of Culture*. New York: Basic Books. (s. 3-30).

Excercise

Problem setting:

Write a project brief in general terms – describe your understanding of the problem. Note down what you do not have and need to have in order to 'frame' your understanding of the problem.

Prepare visit from casegiver Thursday + identify other cases to compare with as well as to visit (within travel distance in DK, Sweden, Norway, Northern Germany).

A first sketching exercise

Products

Project brief + preparing field work

### **Case Study I: Existing platform in Denmark - Cultural institutions, kunsthaller, galleries, kulturhuse etc**

Lecturer: Morten Søndergaard

This lecture introduces to a range of national and international art institutional formats in a historical perspective. Litteratur:

Howard S. Becker (1982): Art Worlds. Berkeley: University of California Press, pp 300-351

Baumann, Zygmunt (2000). "Some notes on the historical peregrinations of the concept of culture" from: Liquid Modernity, Polity.

### **Case Study II: International Cases of Practices and Platforms in a Global Culture**

Lecturer: Morten Søndergaard

How does the art (& tech) world operate internationally? How does international collaboration influence this international art (& tech) world? Students will do long-distance case studies of existing platforms aiming at studying their ideas, organization and impact in the context of a global art marked and the emerging centres of production and criticism of art & technology practices in Asia.

Literature:

Grosz, David (2008). "Art & Democracy. Boris Groys Interview." Artinfo. <http://www.artinfo.com>. Accessed 10. January 2020. Baumann, Zygmunt (2000). "Some notes on the historical peregrinations of the concept of culture" from: Liquid Modernity, Polity.

Belting, Hans (2009). "Contemporary Art as Global Art - A Critical Estimate" in Belting H and Buddensieg A. (Eds). The global art world: audiences, markets, and museums. Hatje Kantz

### **Case Study III: Future (Un)formats**

Lecturer: Morten Søndergaard

What might the future institutional formats be? What would be the perfect collaborative format for your own Art & Technology practices? And what about the climate, the Anthropocene, algorithmic capitalism, peace in the world, human rights, politics, ethics...? Where can our imagination take us?

This lecture will take the art world into the lab imaginary and introduce to a range of theories and speculations about possible future institutional formats, from post-digital platform to critical festival-infrastructures and further...

Literature:

Jussi Parikka (2016): The Lab Imaginary, *Transmediale Journal*, <https://transmediale.de/content/the-lab-imaginary-speculative-practices-in-situ>, 5 pages.

Dieter Daniels: *Transmediale Unformatted. A (pre)history of thirty years or*

*more. Transmediale Journal*, <https://transmediale.de/content/transmediale-unformatted-a-pre-history-of-thirty-years-or-more>, 4 pages

Bishop, Ganising, Parikka (2016): "Across and Beyond: Post-digital Practices, Concepts, and Institutions" in: Bishop et.al. (eds), *Across & beyond – A transmediale Reader on Post-digital Practices, Concepts, and Institutions*, Sternberg Press and transmediale e.V., pp 1-10, 10 pages. Url:

<https://transmediale.de/content/across-and-beyond-post-digital-practices-concepts-and-institutions>

Fiona Shipwright (2018): *Turtles All the Way Down—Or, Escape from Infrastructure. Transmediale Journal*, <https://transmediale.de/content/turtles-all-the-way-down-or-escape-from-infrastructure>

Cornelia Solfrank (2016): *Revisiting the Future. Transmediale Journal*, <https://transmediale.de/content/revisiting-the-future>, 18 pages.

### **Lesson 7-8: WORKSHOP: Organizing your own International Collaboration Platform – preparation workshop**

Lecturer: Morten Søndergaard

**Note: Successfully completing your team presentation is required to pass the course based on active participation**

Workshop

Preparation of your team presentations (your work in your groups). The presentations should be 20 minutes, including discussion. You should Imagine an international collaboration network you would like to organise and showcase IN DETAIL its background, purpose, tactical and strategical media, as well as operational



practice. Compare with another existing project (from Aalborg or Transmediale or elsewhere): describe IN DETAIL how you imagine it would operate as an international collaboration practice in the Art World? Use examples, sketches, images, video etc. What characterizes its critical discourse and what is the role of 'art' and 'technology' in that discourse? Use quotes from the semester texts to frame your argument.

### **Lesson 9-10: Organizing Your own International Collaboration Platform student presentations**

Lecturer: Morten Søndergaard

**Note: Successfully completing your team presentation is required to pass the course based on active participation**

"Student team presentations (in your groups), 20 minutes including discussion: Imagine an international collaboration network you would like to organise and showcase IN DETAIL its background, purpose, tactical and strategical media, as well as operational practice. Compare with another existing project (from Aalborg or Transmediale or elsewhere): describe IN DETAIL how you imagine it would operate as an international collaboration practice in the Art World? Use examples, sketches, images, video etc. What characterizes its critical discourse and what is the role of 'art' and 'technology' in that discourse? Use quotes from the course or semester texts to frame your argument."

### **Examination**

Active participation/continuous evaluation

Active participation in the module's series of lectures and other course related activities is required. Active participation is defined as reading of set literature, 80 % attendance of the module's series of lectures and other course related activities, contribution to the module's discussion sessions through presentations and active participation in discussions as well as hand in of all assignments.

Re-exam:

Written exam.

Hand in: Individual.

Form of examination: c)

For the examination students have to submit a written presentation of an international collaboration project and a reflective report.

The written part must not exceed 10 pages.

In case of a Fail grade, an additional examiner will also evaluate the assignment.

Assessment: Passed/not passed

Type of grading: Internal examination

Credits: 5 ECTS

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