Master of Arts in Fine Art & Design Lens-Based Media

Program Handbook 2023-2024
20230911

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1 Introduction: Master of Fine Art & Design: Lens-Based Media

1.1 Welcome

Welcome to the Master of Arts in Fine Art & Design: Lens-based Media at the Piet Zwart Institute (PZI), which is a part of the Willem de Kooning Academy (WdKA) and Hogeschool Rotterdam (HR). The various courses and facilities of PZI are situated near each other in the heart of Rotterdam's city centre.

The three locations are:
- Karel Doormanhof 45
- Wijnhaven 61
- Blaak 10

As a PZI student this handbook is a key guide to understanding how the curriculum comes together as a whole, the credit points you will acquire, the criteria by which you will be assessed, and the specific requirements of each Module.

Please keep this document throughout your Master studies, and refer back to it for any questions you may have, and where appropriate, use it as a guideline for any work that you are about to embark upon. If you have questions that are not addressed, or issues that remain unclear, do not hesitate to ask your tutors, Course Director or supporting staff for help.

We are looking forward to two years of intense and exciting work, study and experimentation!

1.2 A Brief Overview of the Course

The Master Fine Art & Design: Lens Based Media focuses primarily on artistic and experimental lens-based practices (both still & moving image/animation) that embrace the use of artifice, formal and technical innovation, fictional strategies and other unconventional visual approaches to create new and meaningful visions of the world.

We support visions that seek to move beyond the conventional narratives of our society and create new impetus in the viewer towards an open-eyed engagement with myriad challenges humans (and non-humans) collectively face in a world saturated with disinformation, increasing polarization and fragmentations of communities, centuries old political and social injustices, marginalization of the most vulnerable, and a rapidly degrading global environment.

Such work is necessarily based on a solid artistic research practice: allowing makers to take responsibility for the specificities and narratives of the images they create in such work and the complexities and histories of both the forms they employ and the topics they explore. However fictional the worlds we create, we must take responsibility for their claims to truth.

The program focuses on approaching animation, photography, and the full range of contemporary cinematic forms as a single expanded field, and is committed to lens-based image making as an art and craft with distinct and formative long histories that cross cultural arenas often seen as distinct.

We provide a learning environment that recognises the convergence of previously distinct analogue imaging media into a single digital workflow. We support new forms of analysis and creative practice that treat images as plastic, open to recombination, manipulation and shaping. We will support you in exploring the ways that the images you create might use these new potentials in innovative ways to engage contemporary audiences. You will be encouraged to develop fluency across the whole range of lens-based media, to create a strong individual visual language and an original subjective vision, and to employ your developing fluency and skills to create ambitious and distinctive new approaches to both cinema and photography.

Digital visual media forms are approached using the lens as a central metaphor in their process. For example: 3D digital animation can be entirely built, animated, lit and filmed in a virtual environment without any use of a physical lens: but finally it is a lens-based media in so far as the virtual recording of the final work is mediated entirely through a virtual lens.

The use of the lens as a core organizational category for research and creation in contemporary lens-based digital media, allows your enquiries to be placed within a long tradition that can stretch from the use of lens-based technology by painters from the 15th century onwards, through the development of early photographic and film technology, up to recent developments in analogue and digital image technologies.

We will help you develop practice-based research and studio practices that allow you to develop a strong creative voice,

and strategically select the areas of contemporary lens-based practice you wish to make a significant contribution to.

The research you undertake on the course should result in the creation of work with a clear and demonstrable relation to the tradition of lens-based media and that takes responsibility for the vision of the world that you create.

We aim to prepare students to forge significant careers and make a meaningful contribution to contemporary lens-based

1.3   Staff

Simon Pummell (UK) (Course Director) is a BAFTA and BIFA winning animator, film writer-director and educator. His work has been screened in official competition and won awards in a wide range of International Film Festivals including Venice, Berlin, Locarno, Rotterdam, AFI Los Angeles and many others. Widely seen on television, including Channel4 and BBC as well as many international channels, his cinema works have been distributed by Pathe, Samuel Goldwyn and Sony Home Entertainment, the British Film Institute, and UK cult film distributor Arrow Film among others. His work builds an interface between academy-based research-driven art practice and commercially distributed cinema and television. With an emphasis on expanded and unconventional transmedia approaches to cinema (often using forms of animation and VFX), the work has been recognised internationally for its unconventional forms of storytelling and distinctive visual language,

Core tutors have a wide range of expertise and experience: please see the course website for full details.

Cihad Caner (TK) is an artist living and working in Rotterdam and Istanbul. His practice explores the politics of the image through the mediums of video, photography, music, motion-capture, and CGI. Caner combines historical and contemporary references to confront issues related to (re)presentation, language, marginalization, alterity, and the process of image production, and circulation. Recently he has exhibited at The Finnish Museum of Photography, Hong Kong Arts Center, Bohai Galerie, Kasseler Kunstverein, Corridor Project Space, Blitz Malta, and EYE Film Museum.

Sabine Groenewegen (NL) is an artist filmmaker and editor. She received critical acclaim for her work which was shown at festivals and venues including FIDMarseille, Institute of Contemporary Arts: ICA London, and BOZAR Brussels. Her debut feature film Odyssey (2018) premiered at Doclisboa and won the 2019 Doc Alliance Award for Best Film and Best Feature at Istanbul Experimental Film Festival.

David Haines (UK) lives and works in Amsterdam. He Graduated from Camberwell School of Art, London and The Rijksakademie van Beeldende Kunsten, Amsterdam. Haines works with a range of media, predominantly drawing, painting and video. Through his work he investigates image making technologies in the light of digital media. His video work has been shown at Lux, London, IDFA – Eye Film Museum Amsterdam, Rooftop Films, NYC and VPRO (Dutch television). Select solo exhibitions include The Skin's gaze (and Other Thoughts), Upstream Gallery, Amsterdam (2020); A Fragile Membrane, an Illusive Screen, Upstream Gallery, Amsterdam (2017); Two Way Mirror, Tyneside Cinema (Gallery), Newcastle (2017); Disegni, Artissima, Turin (2017); Armory Show, New York (2016); Discoveries, Art Basel HK, Hong Kong (2014); and Upstream Gallery, Amsterdam (2013).

Ine Lamers (NL) is a visual artist working in Rotterdam. Her practice is based in photography and has expanded over the years with video, drawing, and mixed media installations. Lamers' work has been exhibited a.o. at Nederlands Fotomuseum, Rotterdam, Centraal Museum, Utrecht, SMs', den Bosch Fries Museum, Leeuwarden(NL). Internationally she has shown a.o. at MMOMA, Moscow(RU), Neuer Berliner Kunstverein, Berlin (DE) and Akureyri Art Museum, Akureyri (IS) . She had solo exhibitions at Museum Boijmans van Beuningen, Rotterdam, Ron Mandos Galerie, Amsterdam, Motorenhalle, Dresden (DE), PERMM Museum of modern Art, Perm (RU).

Rossella Nisio (IT) is a visual artist with interdisciplinary inclinations whose work has a strong focus on notions of memory, imagination and space. She has a background in the theory of cinema and performing arts; she pursued her practical training first within the field of documentary photography, eventually moving towards a more autonomous approach to still and moving image-making.

Barend Onneweer (NL) runs the film VFX company, R3MWERK working on a wide range of drama, documentary and commercial productions. Originally trained as an audiovisual designer and teacher in art education, Onneweer is an independent visual effects and animation artist and educator. Today, he shares his time between his post-production company Raamw3rk and teaching in animation and cinema-related subjects. Combining a strong technical background with an artistic author-driven approach, he is a sought-after collaborator by indie- and documentary filmmakers, and visual artists working with moving images.

Stefanos Tsivopoulos (GR) is an interdisciplinary artist and filmmaker who has exhibited extensively in art institutions and film festivals worldwide. In 2013 he represented Greece at the 55th Venice Biennial with the multimedia installation History

Zero. He has also exhibited in documenta 14, Kassel, Germany, in 2017; the 2nd Beijing Biennial, in 2014; and Manifesta 8, Murcia, Spain, in 2010. Tsivopoulos's work has appeared recently in solo exhibitions at the MuCEM, Museum of Civilizations of Europe and the Mediterranean, Marseille; Staatsgalerie Stuttgart; Cycladic Museum of Art, Athens; Stella Art Foundation, Moscow; and ISCP, New York among others. International group exhibitions include Tate Modern, London; MACBA, Barcelona; MUKHA, Antwerp; Kunsthaus, Zurich; Bundeskunsthalle Bonn; Haus Der Culturen Der Welt, Berlin; SALT, Istanbul; BAK Basis voor Aktuele Kunst, Utrecht; LEEUM, Samsung Museum of Art, Seoul; and the Centre Pompidou Paris, among others.

Staff – Reading, Writing and Research Method Tutors

Lead writing tutor **Steve Rushton** (UK/NL) is a writer and artist. His publications include the anthology of his writings Masters of Reality, Piet Zwart Institute/Sternberg Press (2012), the series How Media Masters Reality for First / Last Newspaper, issues 1-6, Dexter Sinister, (2009); New Walden, HB2, Issue 1, CAC, Glasgow, (2008); Philip, a Novel, Project Art Centre, Dublin / Critical Voices, Dublin (2006); Experience, Memory, Re-enactment, Piet Zwart Institute, Rotterdam/Revolver, Berlin [with Anke Bangma and Florian Wuest] (2005); The Milgram Re-enactment, Revolver, Frankfurt (2003). He has collaborated with artist Rod Dickinson as well with the artists duo, Thomson & Craighead. Currently a Phd. Candidate, Leiden University, School of Humanities, Leiden, NL 2013 and on-going. Post-graduate research, theory, Jan van Eyck Academy, Maastricht, The Netherlands, 2001– 2002. BA Hons Fine Art, Sheffield Hallam University, 1977 -1980.

Kate Briggs is a translator and writer based in Rotterdam since 2016. She is co-translator (with Roberto Nigro) of Michel Foucault's Introduction to Kant's 'Anthropology' (MIT / Semiotext(e), 2008) and translator of two volumes of Roland Barthes's notes for lecture courses at the Collège de France: How to Live Together and The Preparation of the Novel (Columbia University Press: 2013 and 2011). She has published four experiments in literary criticism: Exercise in Pathetic Criticism and The Nabokov Paper (co-devised with Lucrezia Russio) (information as material: 2011 and 2013); 'Story the Story in It' (Amodern: 2015) and Entertaining Ideas (Ma bibliothèque: 2019), forthcoming in Spanish translation by Pau Ardid (Como Ediciones: 2021). This Little Art, a book of thinking about translation practice, was published by Fitzcarraldo Editions in 2017 and a finalist for a Believer Book Award in 2018. The Long Form, was published earlier in the year by Fitzcarraldo Editions. In 2021, Kate Briggs was awarded a Windham-Campbell Prize.

Natasha Soobramanien (UK) is a writer working across the fields of literature and the visual arts. She holds a PhD in Creative and Critical Writing from the University of East Anglia, for which she wrote the novel later published as Genie and Paul (Myriad Editions, 2012). A French translation by the Mauritian novelist Nathacha Appanah appeared with Gallimard/Continents Noirs in 2018. She is interested in exploring the ways in which literature might be opened up to multiplicities—of form, of voice, of intent—and what knowledge and practices might be shared between the two fields. She has worked on collaborative editorial projects for If I Can't Dance (Amsterdam) and the Rijksakademie, and on collaborative public projects around writing and performance such as Plastic Words (Raven Row, London in 2015) and Smarginature (Lydgalleriet, Bergen 2016).

Course coordinator **Leslie Robbins** (US/NL) is an artist. Her passion for art in public space has manifested itself in a number of ways: as assistant to artists like Michael Davis or, in collaboration with Julia Klemek, making six large scale clay sculptures along the LA & Orange Counties coastal city parks. Prior to moving to Rotterdam, she lived and worked in [West] Berlin where she did her Meisterschuler. In Rotterdam, she shared an office in the Rotterdam City Hall with an open-door policy to 'artists' initiatives' during its year long reign as Cultural Capital of Europe. In 2019, invited by Anna Ramsair to think with her about opening up their studio building to a wider audience they created together, The Orange Tree art project (TOT). In the summer of 2020, the Foundation opened its garden as a workspace for local artists answering an Open Call and has facilitated numerous concerts initiated by local musicians. Since assuming her post at the Piet Zwart Institute her drive to bring art to the general public has moved into the nurturing of students whose careers are ahead of them.

Guest Tutors

To keep abreast with the professional field, next to our core teaching staff and a wide range of core visiting tutors, many guests have come to lecture and share their point of view on media, its culture, and practices. Along with the core teaching staff, these specialists have imbued the course with a sense of engagement, provided a direct link to the professional field, and addressed the larger context in which media designers and artists work: **their names and areas of expertise are listed on our course wiki, in the pages relevant to their intervention** (for instance on the page overview of a specific project).

2   Course Philosophy

2.1   Critical Reflection & Media in Context

The MFAD: Lens-Based Media program is an HBO Masters that situates itself firmly in practice-based research, critical reflection and the professional field of lens-based media: film, photography and animation.
The program is very small in scale and is research oriented. It is designed to develop graduates whose practice can move fluently between specialised skills and an overall understanding of their field.

The core of the course is the **Self-Directed Research** that you undertake throughout the period of your master's studies. It is through this work that you fully develop your own individual voice as a researcher, designer and artist, and take responsibility for the individual development of your own lens-based practice. We support this development through a variety of methods: **individual tutorials; toolbox sessions; reading, writing and research methodology seminars; and Thematic Seminars focused on specific topics** (Note: these methods are explained in a later section of this document).

Shaping and developing the core of your research as a master level student is your individual responsibility: through your Self-Directed Practice Based Research trajectory.

In pursuing this research by creating lens-based projects – studio-based work – independently from or connected to the Thematic seminars you will be encouraged to critically investigate what your chosen lens-based medium and technologies are, how they are configured, and how they impact society.

Issues of access, technological infrastructures, economy and education, create the terms on which media are experienced: part of your studies is to situate technologies within these frameworks. Therefore, the course combines studio-based creative research, writing and theoretical reflection, and technological learning. To work effectively and to create a design practice that is inventive, ethical and relevant in such a rapidly changing environment requires a practice founded on a thorough understanding of where your own chosen emphasis - political, formal, and procedural - within the medium is positioned both historically and in the current media landscape.

Through this multi-faceted approach, you will eventually be able to distinguish yourself through your skills of critical reflection and practice in a highly competitive field.

2.2   Practice-based Research

Underlying the master's course is a curriculum that combines critical analysis and the skilful crafting of post-digital works in relation to lens-based practices.

The program is designed to allow you to develop a sustainable conceptual and technical practice-based research that cuts through the range of media, and unites different lens-based media, through a core methodology of actively creating dialectics between:

- Opposing poles of thinking: associative/intuitive thinking set against analytical thought.
- Differing modes of creative activity: the intuitive and practical generating of new material through skilful creative activity set against the 'making' & the sorting, editing, programming, and re-structuring of this material in relation to a larger conceptual context.

2.3   The Multi-form lens-based Object

A key element of the curriculum is the exploration of and experimentation with, a variety of cross-media delivery. You are encouraged to conceptualise projects that might find multiple forms: theatrical released film, web-to-print publication, a database-driven narrative, post-digital artist's book or photo-book, any new form of audio-visual hybrid work that might be situated in any number of existing or other new and emerging media platforms**.**

In all your work, rather than accepting given technical solutions that strongly pre-determine both the function and aesthetics of your work, you can shape the methods and tools of your production and so can influence the outcome at a fundamental level. 'Do-it-yourself' in this context means taking control of the technologies and grammars that you engage with in your work. The course strongly encourages original research in looping technologies together in unexpected and innovative ways, to create **your own lens-based media objects and artworks.**

2.4　　Preparation for the Professional Field

In terms of professional field this course addresses several lens-based media professional communities. However, with rapid changes in technology and the media-scape, these fields are continually redefined.

The development of increasingly sophisticated digital workflows, and the shift of cross-media, cross-platform and hybrid media projects from the experimental fringes to the mainstream of media production, increasingly calls for a new and critical approach to both research and production in all forms of Lens-Based Media.

The negotiation between specialised skill and overall understanding of the field is increasingly complex for a contemporary media practitioner.

The artist, filmmaker, photographer, animator or moving image designer in this complex register of interdisciplinary approaches, is not only someone who creates a framework to contain content, but is someone who understands the scope of these practices in a larger social, political and historical context.

The balance of critical reflection, technical and craft skill development and studio practice in the curriculum of course is designed to address this aspect of the professional field.

3   Curriculum & Course Structure

3.1   Final Competencies

The program aims to develop a set of 8 final competencies that enable students to enter the professional field and work on their own or in interdisciplinary collaborative teams.

Graduates manifest the competencies listed below:

1. Creative ability: They have developed the independent learning ability required to create innovative, challenging, significant, and coherent projects that are based on clearly articulated approaches and intention.
2. Capacity to conduct self-directed research: They can identify relevant subject matter, questions, and formulate distinct areas of research.
3. Research methodologies: They can harness skills of research, analysis and synthesis to the development of creative projects.
4. Technical fluency: They can demonstrate an analytical grasp of the underlying technical and conceptual principles of practices relevant to their field and work in lens-based media.
5. Organisational skills: They have the capacity to design, manage and execute effectively, complex and creative projects on their own or in collaboration with others, which bring together original combinations of media forms.
6. Capacity for innovation: They have developed flexible work practices that can be employed in a wide variety of production contexts and have the technical conceptual skills for dealing with new forms and unforeseen challenges.
7. Critical reflection and awareness of context: They can critically reflect on relevant issues related to a larger social context and make informed decisions about the positioning of their work and methods of production. This critical reflection should be expressed through both practice, and verbal analysis of intention: reflections on process and creative output.
8. Communication skills: They can communicate their intention, context, process and perceived results– with clear written and oral descriptions to both experts and general audiences.

The profile for the final competencies was established in accordance with the Dublin Descriptors and ELIA Design Tuning document. The ELIA Design Tuning Document was the result of efforts made by a consortium of European art schools, universities and academies belonging to ELIA (a network representing approximately 350 Higher Arts Education Institutes from 47 countries) and Cumulus (International Association of Universities and Colleges of Art, Design and Media) network.

The matrix matches Dublin Descriptors for Second Cycle Degree Studies (in the left-hand column) with descriptors from the ELIA Design Tuning Document for Second Cycle Degree Studies (in the central column) and descriptors of Final Competencies of lens-based program (in the right column).

The Final Competencies Matrix (see below) brings these elements into alignment and is designed to give an overview of how definitions of skills overlap and intertwine across the descriptors.

Dublin Descriptors	ELIA Design Tuning Document	Final Competencies Lens-based Media (See above p.8 for details)
Have demonstrated knowledge and understanding that is founded upon and extends and enhances that typically associated with BA level	Command of the main general and specific design skills, and basic expert skills in own specialisation within the discipline. Command of the most important techniques and technologies relevant to the design discipline including techniques and technologies specific to own specialisation. Basic ability to adapt and develop design skills, techniques and technologies to new types of problems and recognise problems that can be solved by design.	**Creative ability (1)** **Technical fluency (4)** **Critical reflection and awareness of context (7)**

Has developed originality in developing or applying ideas, often within a research context.	Advanced understanding of creativity in design, ability to direct and develop own creativity. Ability to analyse and develop ideation principles and practices to better fit own ways of working. Ability to analyse and develop own design process. Ability to plan and manage medium scale design projects. Ability to analyse and develop own design process.	**Capacity to conduct self-directed research (2)** **Research methodologies (3)**
Can apply knowledge and understanding, and problem-solving abilities in new or unfamiliar environments. Can apply knowledge and understanding, and problem-solving abilities within broader (or multi-disciplinary) contexts.	Ability to be responsible for major parts in large scale design projects / R&D projects as a member of a design team. Ability to plan and manage medium scale design projects. Ability to be responsible for major parts in large scale design projects / R&D projects as a member of a design team.	**Creative ability (1)** **Organisational skills (5)** **Capacity for innovation (6)**
Has the ability to integrate knowledge and handle complexity and formulate judgments with incomplete or limited information.	Command of formulating and evaluating design concepts.	**Research methodologies (3)** **Capacity for innovation (6)**
Has the ability to reflect on social and ethical responsibilities linked to the application of knowledge and judgements.	Ability to ground own work into the theoretical and historical framework of design. Ability to participate in the discussion about the position of design in social, cultural (inc. artistic), political, ecological and economical contexts.	**Critical reflection and awareness of context (7)**
Has the ability to clearly and unambiguously communicate conclusions, and the knowledge and rational underpinning of these, to both specialist and non-specialist audiences.	Ability to communicate own ideas and design processes to clients and general audience. Ability to discuss and expand theoretical concepts related to own design work. Understanding of philosophy of design. Familiarity with analytical and critical thinking in general. Basic understanding of philosophy of art, science and technology depending on the focus of the program.	**Capacity to conduct self-directed research (2)** **Research methodologies (3)** **Technical fluency (4)** **Communication skills (8)**

Develop learning skills to allow them to study in a manner that may be largely self-directed or autonomous.	Advanced understanding of own weaknesses and strengths in learning, and how lifelong learning can be beneficial for further learning needs.	To demonstrate to an advanced level **the synthesised achievement of the 8 final competencies** into a practice that allows on-going professional development on a technical, aesthetic and critical level. To develop the ability to respond critically, creatively and technically to the constant innovations in lens-based media such as newly emerging forms of production in the field, their dissemination and broader social implications.

3.2   Curriculum overview

The Lens-based Media curriculum is structured around two key activities:

- Self-Directed Research (YEAR 1 and YEAR 2)
- Reading Writing and Research Methods Seminar (YEAR 1) / Graduate Seminar (YEAR 2)

Within Self-Directed Research there are several additional support seminars in place that help students plan their self-directed research trajectory and develop skills and expertise as the course progresses. These include:

- intensive Toolbox sessions (YEAR 1) where technical skills are acquired;
- Thematic Seminars (YEAR 1) where you are introduced to key issues within the field of lens-based media practice
- A Graduation Mentor Seminar program
- A flexible range of several Teaching, Learning and Didactic Models **(YEAR 1 and YEAR 2) to support the Thematic Projects (YEAR 1) and the Graduation Project (YEAR 2).**

Within Reading Writing and Research Methods Seminar (YEAR 1), which gives practical assistance in ways to articulate and broaden your research, you are introduced to different reflective writing practices in the form of seminars and tutorials. In YEAR 2, the **Reading Writing and Research Methods Seminar turns into the Graduate Seminar,** where the emphasis is then put on your thesis writing and research for your graduation project.

The chart below visualises the weighting of the links of final competencies with program elements.

Reminder, our Final Competencies are:

1. Creative ability
2. Capacity to conduct self-directed research
3. Research methodologies
4. Technical fluency
5. Organisational skills
6. Capacity for innovation
7. Critical reflection and awareness of context
8. Communication Skills

Curriculum↓ Competency→	1	2	3	4	5	6	7	8
Reading, Writing, and Research Methods / Graduate Seminar	xx	x	xxx	x	x	x	xxx	xxx
Self-Directed Research	xxx	xxx	xx	xxx	xx	xx	xx	xx

Final Outcome

The two-year program culminates in **a Graduation Project and Thesis of 7,000-8,000 words** at the end of YEAR 2.

ECTS Chart and ROM

ECTS (European Credit Transfer System) is the European measure for the workload of a full-time student, required to complete activities such as attending lectures, seminars, group critiques, thematic projects and tutorials, conduct independent study, reading, writing, the production of work, and the preparation of presentations and assessments.

The master Lens-Based Media is a full time, two-year study program of 60 ECTS per year.

The student workload of a full-time study program in Europe amounts to around 1500-1700 hours, about 25-30 hours per ECTS. To successfully earn the required ECTS points for your Self-directed Research and Reading Writing and Research Methods activities, you must attend and be an active participant in the Toolbox sessions Thematic seminars, Reading Writing and Research Methods, and Graduate Research seminars.

YEAR 1

Trimester One	Reading, Writing and Research Methods 4 ECTS	Self-Directed Research including required Toolbox and Thematic seminars 16 ECTS
Trimester Two	Reading, Writing and Research Methods 4 ECTS	Self-Directed Research including required Toolbox and Thematic seminars 16 ECTS
Trimester Three	Reading, Writing and Research Methods 4 ECTS	Self-Directed Research including required Toolbox and Thematic seminars 16 ECTS

YEAR 2

Trimester Four	Graduate Research Seminar 4 ECTS	Self-Directed Research including Graduation Mentor Seminar 16ECTS
Trimester Five	Graduate Research Seminar 4 ECTS	Self-Directed Research including Graduation Mentor Seminar 16ECTS
Trimester Six	Graduate Research Seminar 4 ECTS	Self-Directed Research including Graduation Mentor Seminar 16 ECTS

3.3   ROM

ROM is the Rotterdam Educational Model, a system of learning developed by the Hogeschool Rotterdam.
KG (Kennisgestuurd) = Knowledge (Theory) driven
PG (Praktijkgestuurd) = Practice driven
SG (Studentgestuurd) = Student driven

For the master's the three models of learning overlap in each module.

The table below shows the structure of the curriculum in relation to the study load and the contact hours per week.

Master in Fine Art and Design; Lens-Based Media 2020-2022 fulltime				Trimester 1	Trimester 2	Trimester 3	Trimester 4	Trimester 5	Trimester 6
Course name	Course code	sp	contact hours x 50 min	assessment	assessment	assessment	assessment	assessment	assessment
Trimester 1									
Self-directed research	MDCSDR01LB		12						
Reading, Writing and Research Methods	MDCRWR01LB		4						
Trimester 2									
Self-directed research	MDCSDR02LB	32	12		AS				
Reading, Writing and Research Methods	MDCRWR02LB	8	4		AS				
Trimester 3									
Self-directed research	MDCSDR03LB		12						
Reading, Writing and Research Methods	MDCRWR03LB		4						
Trimester 4									
Graduate Project Proposal	MDCGPP04LB	32	10				AS		
Graduate Research Proposal	MDCGRP04LB	8	4				AS		
Trimester 5									
Self-directed research	MDCSDR05LB		8						
Graduate Research Seminar	MDCGRS05LB		4						
Trimester 6									
Self-directed research	MDCSDR06LB	32	8						AS
Graduate Research Seminar	MDCGRS06LB	8	4						AS
Total Acquired studypoints (according to ECTS)		120							

Contact hours may vary according to individual need.

**Legenda**
AS = Assessment

3.4   Self-directed Research Overview (YEAR 1 and YEAR 2)

The Self-Directed Research that you pursue throughout your two-year master studies is the core of the course. In Year One it is supported by Toolbox Session, Thematic Seminars and individual tutorials. In Year Two it is supported by Thematic seminars and the Graduation Mentor Seminar Self-Directed Research is the place where you can integrate discoveries from all other sessions and develop your individual voice as researcher, designer and artist, and take responsibility for the individual development of your own practice.

Self-Directed Research is specific to your practice and your study needs. It is determined by each student in dialogue with tutors.

We support this development through a variety of methods: tutorials; Toolbox sessions; and Thematic seminars focussed on specific topics. But the core of your research as a master's level student is both expressed and developed through the Self-Directed Research path you develop and present through a continuing series of group critiques and individual tutorials:

- **Mentor Groups** provide a forum for students to refine their ideas and possible forms of production, and to reflect together on each other's graduate projects in process.
- **Individual tutorials** are the opportunity to discuss your work in depth with a range of core and visiting tutors.

Both Mentor Groups and individual tutorials are designed to develop your ability to step in and out of your work and adopt the role of viewer as well as maker: thus, gaining the essential ability to periodically adopt critical detachment from your own work processes and products.

Furthermore, the ability to understand and discuss the larger context of your practice is very important, as it helps you reflect on how your final project might be understood by a public before it is presented. Through a combination of individual tutorials and group critiques you will be "practicing your work" before others and testing your ideas through close analysis, critical reflection and active. **For more information about these methods see Section 4 Teaching, Learning and Didactic Models.**

Through self-directed research, ideas, approaches and works are developed through experimental, exploratory and connective modes of inquiry: interrogative and analytical observation, close readings of relevant theories, art works or media, and using methods and ideas drawn from other disciplines. Ideas and approaches you have encountered in the Thematic seminars and Research Methodologies seminars may be taken up here. Self-directed research also includes 'play'

and open-ended improvisational modes of exploring materials, processes and ideas: making imaginative connections and associations.

In sum self-directed research projects are:

- lens-based works that are defined in terms of its scope and development by you, by discussion with tutors, and in possible relation with other students, external organizations, events or practitioners. In this process you are assisted in the theoretical, practical and technical dimensions of the work dialogue with tutors in Tutorials
- examined through dialogue with tutors and students in Group Critiques
- Developed with work plans tailored to the learning requirements of the student

Whilst your Self-directed projects can advantageously be of a purely experimental or speculative nature, you may also wish to establish connection with outside agencies, such as competitions, exhibitions, NGOs, community groups etc. Their relationship to the work might be configured as a client, collaborator, commissioner and so on, however your role as a lens-based practitioner needs to be clearly defined in consultation with tutors.

Learning Outcomes:

1. facilitate independent and self-directed research
2. teach you how to articulate a clear direction for your work
3. help you establish strong research methodologies to enhance your practice and conceptual development
4. aid in selecting appropriate methods of execution

Assessment Criteria:

You will be assessed according to your capacity to:

1. Study and work independently and self-critically.
2. Identify relevant questions, ideas or issues for your research.
3. Undertake research into these questions, ideas or issues through experimentation, test designs and production, the study of theoretical references and other relevant research methods.
4. Exercise a challenging and innovative approach to ideas, technical processes and materials, including taking risks, and making constructive use of failure and mistakes.
5. Develop an imaginative body of lens-based work informed by and embodying your areas of research.
6. Explore and utilize relevant working methods and techniques relevant to lens-based media design practices.
7. Analyze, contextualize and discuss your work within a developing critical framework.
8. Integrate specific discoveries and learning from the toolbox and thematic seminars that are relevant to your own research trajectory
9. Document work (see notes on documentation in each assessment section)

Relation with Final Competencies

To start with, we are looking to see substantial and clear progress towards developing and documenting a challenging and coherent body of work focused upon selected ideas or issues, while exploring and utilizing relevant working methods and technology. Thus, meeting the following final learning outcomes:

- Creative ability (1)
- Capacity to conduct self-directed research (2)
- Research methodologies (3)

It is also important to demonstrate an exploratory and innovative approach to ideas, processes and materials, allowing for speculation and opening new directions. And to realize your intentions and produce finished work. Thus moving towards the final competencies:

- Technical fluency (4)
- Organisational skills (5)

You are expected to demonstrate clarity of intention and direction both verbally and through practice. As you progress in your research you are required to undertake research and apply the knowledge gained to the enhancement of your practice, including exploring relevant modes of showing, demonstrating or disseminating your work. In this way satisfying the final competency:

- Capacity for innovation (6)

Finally, it is important to analyse, contextualize and discuss your work within a clearly motivated critical framework. In this way satisfying the final competencies:

- Critical reflection and awareness of context (7)
- Communication skills (8)

3.4.1 Self-Directed Research Support: Toolbox Sessions (YEAR 1)

The Toolbox Sessions about conducting practice-based research through iterative stages of analyzing and understanding technical processes and their histories, making prototypes, testing these prototypes for the purpose of communicating your ideas, and developing your critical reflection upon these processes. Toolbox Sessions asks you to combine the gathering of new practical technical knowledge with your own research either linked to the Thematic seminars or your own individual work. It encourages you to make tests and prototype designs and prepare workshops that "work" not only technically, but also on a communicative and conceptual level.

At the end of Year One you will be supported in preparing TECHNICAL PLAN OUTLINE. This document will help you organise your Year Two research strategies and will form a required element in the 4th term Graduation Project Proposal. Topics it should address include:

Needs
What tools, techniques and technologies will be involved in producing and presenting your project?
(Not limited to digital tools)

How
How will you use these techniques and technologies in your project?

Challenges
Describe the challenges and potential pitfalls in using these techniques. Do you already have the skillset needed, or do you need to develop new skills? What could be the biggest threat to the success of the project?

Timepath
Describe when you will need these skills and techniques in the remaining time, and (if applicable) a timepath for developing new skills.

Strategy
Describe how and in what way you will develop these skills - and what kind of assistance you might need (and from whom). Try to be as specific as possible.

Peers in the group that may share an interest
Are there peers (inside or outside the PZI) who share an interest in the techniques you plan to use, in order to share knowledge?

Tools not to use and why...
As a counterpoint, briefly describe which tools or techniques (that may seem like obvious choices for your project) you do not want to use, and why?

The Toolbox Session is part of Self-Directed Research. It inherits its Learning Outcomes, Assessment Criteria, and Relation to Final Competencies. However, it also comes with its own subset of Specific Learning Outcomes and Specific Assessment Criteria.

Specific Learning Outcomes
1. Developing ideas through iterative, partial implementation and experimentation (mock-ups and tests) in a way that helps balance your vision of a project while grounding it in your practice.
2. Planning projects via iterative development so that "fall-backs" meaning other options are inherently available in the event of technical problems.
3. Learning to strike a balance between working within your limits, developing flexibility through modularization and simplification, and considering alternative means of "performing" or visualizing an idea, while also going beyond the security of your skill-set.
4. Developing the capacity to critically reflect on results of your experimentation and exercises. This critical reflection is measured by your documentation on the wiki, a willingness to engage in active dialogue with your peers and tutors, and your capacity to rework projects based on feedback.

Specific Assessment Criteria

1. **Engaged Response or Tailoring Assignments to Your Practice:** An engaged response is about making a connection between your specific background and interests to the subject matter or techniques presented in the course.
2. **Conceptual Strength:** Often a prototype functions as a "proof of concept", or a means of trying to apply a technique, tool, or approach to a situation. As such, evaluation of your work is focused not so much on an efficient or "technically correct" outcome, but on whether your work convincingly "proves its point" and suggests future development.
3. **Stretching or Extending Your Skill-set:** Students come to the course from different backgrounds and with different experience. In Toolbox sessions, you will be asked to do exercises designed to stretch your limits and push the limits of your comfort zone.
4. **Sharing:** Engaging in Dialogue Through Critique: Sharing is the extent to which your work communicates its ideas, but also how you actively communicate about your work and engage in critical reflection through dialogue with others in the seminar.

Workload

Active attendance of the Toolbox Sessions is required and meeting the assessment criteria contributes towards the ECTS you will need for your self-directed research grades. Details of Toolbox Sessions will be published on the course Wiki throughout the year. At least a 70% attendance of sessions is required.

3.4.2   Self-Directed Research Support : Thematic Seminars (YEAR 1 & YEAR 2)

Over the course of two years, you will take six to eight Thematic Seminars that explore and open-up themes relevant to your chosen study.

Thematic Seminars are led by either a core tutor, a team of core tutors, and/or guest tutors, who come from a variety of disciplinary backgrounds. Whether a designer, artist, or theoretician, these specialists offer advanced insights into media design practices and issues significant to the professional field. The seminars involve different learning methodologies such as reading sessions, instructional workshops, presentations, discussions and lectures.
Thematic Seminars offer a framework for reflection, discussion, and joint research on a specific topic.

This module aims to develop your understanding of your work in relation to others in the professional field and help you define your position within a broader cultural, technical and social context. They are designed to act as intense and self-contained experiences that act as stimuli and catalysts for thought: provocations and a widening of horizons that create insights and introduce topics that you may wish to bring back into your own self-directed research. Thematic Seminars are not designed to be sustained projects that extend significantly beyond their time-tabled days.

The days of each seminar can be intense and demanding but you are not expected to incorporate all the procedures and topics you encounter in THEMATIC SEMINARS into your own future work: rather to select, re-mix and appropriate elements that are productive for your own particular research interests.

As part of this clarification we formally divide the reading into: *Required Preparatory Reading* & *Additional Resources*. The first category you are required to read to be prepared for the seminar -- the second category is a resource that you might select appropriate elements from, once you start exploring the topics of the seminar.

Each session varies in form and can range from a lecture plus following discussion, hands-on intensive workshops, to screenings and presentations. You are required to follow all of these elements.

Thematic Seminars are part of Self-Directed Research. They inherit its Learning Outcomes, Assessment Criteria, and Relation to Final Competencies. However, they also come with their own subset of Specific Learning Outcomes and Specific Assessment Criteria.

Specific Learning outcomes

1. enhance knowledge and understanding of the historical context in which you work as a media practitioner
2. increase the ability to question and problematize issues related to lens-based media practices
3. expand critical and conceptual vocabulary
4. be exposed to research and production by professionals in the field
5. acquire the capacity to map out and compare different perspectives and positions in relation to a specific subject
6. develop skills of dialogue and of making an argument in writing, presentations and discussions
7. define potential terms of engagement with the contexts relevant to one's work
8. develop rigorous methods of critically reflecting on practice and situating it in a broader context
9. engage in peer-group discussion and feedback

Specific Assessment Criteria

1. The ability to actively engage in rigorous debate related to the selected themes
2. The willingness to respond to a topic and interpret it according to your own practice, research methodology and interests
3. The capacity to exhibit the critical verbal and demonstrative tools to frame your practice in a broader social, cultural, technical and professional context
4. The openness to engage in practices, theoretical frameworks and issues reaching beyond your conceptual framework and practice
5. The willingness to experiment and help design innovative highly collaborative ways of working

Workload

You may select the topics that are most suited to your individual research paths. To gain full credits for the Thematic Seminar elements within your self-directed research you must satisfactorily complete any assigned projects and seminars scheduled within your chosen Thematic Seminars. Details of each module will be published on the course Wiki throughout the year.

Active attendance of the Thematic Seminars contributes towards the ECTS you will need for your self-directed research grades. At least a 70% attendance of sessions is required.

3.4.3   Self-Directed Research Support: Graduation Mentor Seminar (YEAR 2)

The aim of Graduation Mentor Seminar is to support and encourage your ongoing research towards the final a graduation project. And to set up a consistent work flow for graduation project research which can be regularly peer reviewed. You will be assigned a mentor and mentor group at the beginning of Year Two (Trimester 04)

The Form and Method of the Graduation Mentor Seminar:

The Graduation Mentor Seminar takes the form of a Bi-weekly seminar in which you meet with your mentor and the small group of students in your mentor group (6 max) to collectively discuss self-directed research (work on the final project). Achievable aims are set at the end of each session and reviewed in the subsequent session.

Frequency of Graduation Mentor Seminar:
The rhythm of the meetings will run alternate with the Graduate Reading Writing & Research Seminar: 1 week GRS, 1 week Mentor Seminar SDR

Liaison with Graduate Research Seminar:
At the beginning of the year, and at strategic points thereafter, the Graduation Mentor Seminar tutors will meet with the Graduate Reading Writing & Research Seminar tutors to discuss how the two seminars can cooperate most effectively. Progress and workflow of individuals and groups is reviewed.

Grades
Attendance to the Mentor Seminar is compulsory. Grading is incorporated into the summary assessments for practice-based research (trimesters 4, 5 & 6). Active attendance of the Graduation Mentor Seminar contributes towards the ECTS you will need for your self-directed research grades in Year Two. At least 80% attendance of sessions is required: non-attendance will affect the grade given.

3.4.4   Self-Directed Research: Final Graduation Project Proposal (YEAR 2: TRIMESTER 04)

Throughout the first trimester of your second year, you are required to develop a **Project Proposal**, which establishes the theoretical, practical and technical grounds of your work towards the summation of the program. Final graduation projects offer a concentrated period to process the insights and experiences gained throughout the first three trimesters and to translate their implications into your own work and working methods. In this process, you are expected to be able to not only produce new work, but also to develop a strong sense of the criteria that are crucial for the evaluation and development of your work.

The **Graduate Project** has a sustained procedure of assessment associated with it. This procedure also provides structured feedback and dialogue about the work. Graduate Projects are also substantially sustained and supported by individual tutorials and group critiques. It is important that you arrange these and plan carefully to benefit from them.

Project Proposal

The Project Proposal is a tool. It is there to help you structure a plan for your final project. It is also intended to help you become more aware of where you want to go with your work, to steer your development and to see how the course elements can best contribute to this. Here, writing is used to evaluate and speculate, and a means to be precise and explicit. The Project Proposal functions as a point of reference within the program for both you and your tutors.

Working with this Project Proposal will teach you to develop your practice through self-evaluation and setting yourself a goal. Thus, for the work plan to actually 'work', it is important not to regard it as an aim, but as part of a trajectory, or better, as a tool which will provide insight in the trajectory from one point in your development to another.

Specific Learning Outcomes

1. Engage in self-evaluation at a crucial mid-way pint in your two years of self-directed research
2. Identify the trajectory of the work's development and to indicate steps and strategies for steering this development
3. To allow you to test and demonstrate enhanced abilities to reflect critically on practice
4. Develop your own criteria in relation to your self-directed research planning and outcomes
5. To allow you test and demonstrate writing skills acquired through year one of the course

3.4.5   Self-Directed Research: Final Graduation Project (YEAR 2: TRIMESTER 5 & 6)

The final Graduate Project is the culmination of your Self-Directed Research.

It inherits its Learning Outcomes, Assessment Criteria, and Relation to Final Competencies. However, it also comes with its own subset of Specific Learning Outcomes.

Specific Assessment Criteria

See section on Graduation Project Assessments for a thorough explanation of what will be assessed, when and according to what criteria.

3.4.6   Note on joining other Courses' Lectures/Workshops/Seminars/Projects

Many of the PZI Masters offer lectures, workshops, Thematic Seminars (or Thematic Projects as they are often referred to in other courses). In consultation with the Course Director of the respective departments, you may follow these. Participation may be extremely useful, however, keep in mind that specific conditions may be attached to participation, for instance regarding essay writing or the need to provide a specific outcome. Also, you need to evaluate with your tutors if this participation is compatible with your current workload in order to maintain your flow of work within your own course or the course in which the other Thematic Seminar/Project, lecture or workshop is programd.

For specifics on these issues, you will need to speak to your tutors and the Course Director.

3.5   Reading, Writing, and Research Methods Seminars Overview (YEAR 1)

The Reading, Writing, and Research Methodologies Seminar is tailored towards developing your research methods within the first year of your academic studies. By establishing a solid foundation of research skills, **it will eventually prepare you for your Graduate Research in YEAR 2**.

Through reading core theoretical texts relevant to the course and the topics discussed in the current Thematic seminars, you will establish a common vocabulary and set of references to work from. You will learn the practice of classic 'essayistic methodologies', including close reading, annotation, description and notation. You will learn to survey a body of literature, filter what is relevant to your research and create comparative pieces of analysis. The seminar will help you establish methodical drafting processes for your texts, where you can develop your ideas further and structure your use of notes and references.

The course takes as axiomatic that the perceived division between 'practice' and 'theory' is essentially an illusion. All these elements come together to enhance your Self-Directed Research and will aid you in establishing your body of research in your final year, enhance your capacity to write your Graduate Project Proposal and Thesis. Lastly, it will introduce critical tools that allow for the analysis, contextualization and articulation of your own practice.

Learning Outcomes

1. Provide skills to analyse a body of texts (film, literature, theory, practices)
2. Impart the value of surveying a broad set of references in order to focus on specific themes, issues or concerns based on being informed
3. Establish a common language or set of references by reading core theoretical or historical texts on media, lens-based media, post-digital practices, their cultures and context
4. To teach methods of expository writing while showing speculative possibilities through writing

Assessment Criteria

You will be assessed on your capacity to:

1. Intelligibly express your ideas, thoughts and reflections in written English
2. Articulate in writing a clear direction of your graduate project by being able to identify complex and coherent questions, concepts and appropriate forms
3. Clearly structure and analyse an argument
4. Use relevant source material and references
5. Research texts and practices and reflect upon them analytically
6. Synthesize different forms of knowledge in a coherent, imaginative and distinctive way.
7. Position one's own views within a broader context
8. Recognize and perform the appropriate mode of address within a given context
9. Engage in active dialogue about your written work with others

Relation to Final Competencies

To start with, we are looking to see substantial and clear progress towards the written articulation of selected ideas or topics. It is also important to demonstrate an exploratory and innovative approach to ideas, processes and discourses, allowing for speculation and opening new directions. This will be very much influenced by the mode of address used in the writing and its function, whether it is an academic essay, a literature survey, a documentation, an interview, etc. Thus, meeting the following final learning outcomes:

- Creative ability (1)
- Capacity to conduct self-directed research (2)
- Critical reflection and awareness of context (7)
- Communication skills (8)

As you progress in your research you are required to follow existing, or respond with novel research strategies to apply to your written work, including exploring relevant modes of showing, demonstrating or disseminating your texts. In this way satisfying the final competency:

- Research methodologies (3)
- Technical fluency (4)
- Organisational skills (5)
- Capacity for innovation (6)

Workload

Completion of writing assignments (4000-6000 words) and active attendance of the Reading, Writing, and Research Methods Seminars is required and meeting the assessment criteria contributes towards the ECTS you will need for your Reading, Writing, and Research Methods grades. Details of each Reading, Writing, and Research Methods Seminars will be published on the course Wiki throughout the year. At least a 70% attendance of sessions is required.

3.6 Graduate Reading Writing & Research Seminars Overview (YEAR 2)

The Graduate Reading Writing and Research Seminars are the direct extension in YEAR 2 of the Reading, Writing, and Research Methods Seminars in YEAR 1.

The Graduate Reading Writing & Research Seminar offers support for the written component that accompanies your Graduate Project, principally your Graduate Project Proposal and Thesis. This seminar aims to allow for a seamless integration of practice and the written articulation, theorisation and contextualisation of your project. Key to the seminar is

the identification of key issues that emerge form your work, articulating ideas and themes that will inform your written work during YEAR 2.

The Graduate Reading Writing & Research Seminar will use learning formats such as reading and writing circles as well as group and individual tutorials. The module, therefore, places central importance on shared learning as a means through which an individual practice can be articulated and contextualized. The module also aims to identify and examine the appropriate forms of address (formal, academic, presentational) through which your practice can be expressed.

Learning Outcomes

- Define and refine the aims and direction of your work
- Formulate through writing and dialogue objectives, topics, methods, questions, and outcomes for your graduation project.
- Develop and execute appropriate forms of text based on feedback, practical tests, and critical reflection.
- Define and refine your conceptual frameworks based on your own intentions, contextual awareness and feedback given during writing circles and tutorials.
- Conduct peer-reviews and engage in joint reflection.
- Analyse, interrogate and evaluate your written work against your self-defined intentions and criteria.
- Engage in active dialogue with peers.
- Exchange and motivate ideas and approaches, listen to peer reviews, and give feedback to others.
- Analyse, interrogate and evaluate the written work of others against the framework of intentions and criteria they have formulated.

Assessment Criteria
Same as for the Reading, Writing, and Research Methods Seminars.

Relation to Final Competencies
Same as for the Reading, Writing, and Research Methods Seminars.

Workload

Completion of a Graduation Project Proposal (1500-3000 words), a Master thesis (7,000-8,000 words) and active attendance of the Graduate Reading Writing & Research Seminar are required and meeting the assessment criteria contributes towards the ECTS you will need for your Graduate Reading Writing & Research Seminar grades. Details of each Graduate Reading Writing & Research Seminar will be published on the course Wiki throughout the year. At least a 70% attendance of sessions is required.

4 Teaching, Learning and Didactic Models

The curriculum is supported through the following modes of engagement, support and teaching, many of which are explicitly designed to facilitate **student-centred learning**:

4.1 Tutorials

Tutorials are carried out by tutors and guest tutors. They are a basic point of reference throughout the course. Tutorials can take the form of individual meetings between tutor and student, or small groups of two to three people.
Benefits of tutorials include:
- they are tailored to meet the specific needs of students,
- they enable regular, sustained and targeted contact between staff, visiting specialists and students
- they are a flexible format in which theory, practice and technical issues are discussed and learned
- tutorials demand preparation and a degree of self-management of learning

In addition to the regular tutors, guest tutors are occasionally brought in from the professional field to lend fresh insight. Especially when working on final projects, the specialist advice of a guest tutor can offer a more detached perspective on your work.
Individual tutorial support for the development of practice is 'made to measure'. This means that what is discussed in the individual tutorials is specific to your work and research. While some tutorials are mandatory, meaning you will be regularly scheduled for meetings, others you will need to sign up for. These are often done via sign-up sheets or the wiki calendar.

Crucial to getting the most out of tutorials is preparations. When you meet with a tutor or guest have things to show, and a clear set of questions or concerns. Even having failed examples of something is better than showing nothing, as it gives your tutor a way to discuss what your intention was versus the outcome, and what other options may be at hand to approach your project differently.
Finally, take notes on what was said and consider how your will follow-up on critical comments made. Taking these measures will allow for a continuity of discussion between tutorials.

4.2 Mentor Groups

The Graduation Mentor Seminars used only in the second year of study: it takes the form of a bi-weekly seminar in which you meet with your mentor and the small group of students in your mentor group (6 max) to collectively discuss self-directed research (work on the final project).

Achievable aims are set at the end of each session and reviewed in the subsequent session.

4.3 Group Lessons

Group Lessons take place in the form of workshops, lectures or seminars. Here is where specific knowledge is imparted to a group of students in a more formal setting, for example, in Toolbox sessions for instance.

4.4 Individual Work & Study, Hack Pacts

This is where self-directed research is crucial. While some courses are frontally taught such as Toolbox sessions, at the Master level you are expected to work on your own research, creating a set of guidelines for yourself in terms of aims, methodology, and time planning. A large part of the curriculum relies on your initiative and drive to steer your own work (see Self-directed Research).

To encourage this practice, some assignments within Toolbox sessions as well as within the Reading and Writing Research Methods seminars will require to start a Hack Pact, a method derived from live coding communities where researchers lead small experiments daily and immediately document publicly their outcome and finding that will form in turn, the basis for the next experiment.

4.5 Writing Circles

Just as Group Critiques serve to test ideas and interrogate practice, Writing Circles operate in a similar manner in scrutinizing written texts. They serve as opportunities where you and your peers examine work produced or read texts by others in the Reading, Writing and Research Methodologies or Graduate Research Seminars. In consultation with the tutor of these seminars you are required to submit your text in advance of tutorials and Writing Circles so that tutors and peers can prepare for the discussion.

4.6   Documentation

Because much of the learning experience on the course is shared, the wiki provides a resource whereby your working process, and the work done in the various curriculum elements, can be documented as you progress. The wiki represents a forum in which your work and research material can be ordered and organized for your own benefit and also shared by your peers. It is a means of critically reflecting on your working process and can serve as a preparatory space for Thematic Seminars, Tutorials, Group Critiques, Toolbox sessions etc. It is an essential component to produce discourse and reflection within the program.

It is essential that you maintain documentation of your work on the wiki. Documentation allows you to track your progress, helps prioritize course work, and helps staff to coordinate support. Use the wiki as a space to define your learning strategies.

Documentation should comprise a variety of material: textual description, code or audio/video fragments, story boards, screenshots showing results, all to describe the process of your work. This documentation should be "self-contained" such that an outside web visitor can read and understand the work and its context.

4.7   Group Critiques

Listening to your peers as they your work, in relation to your questions and intentions, will provide an opportunity to reflect on the readings your work generates. Being confronted with the way others interpret your work will help you distinguish the aims and intentions you have, from what the work does in practice; meaning the ways in which it stages its subject or purpose, addresses its audience or users, and generates meaning. These discussions may open connotations, implications, problems or solutions you may have not yet considered, or confirm the appropriateness of the decisions you have made.

By engaging in discussions of the work of others, you will also develop a critical vocabulary and tools to analyse and interrogate not only their work, but also that of your own. Discussing projects made by your peers is an exercise speculating on different possible perspectives, approaches, methodologies and possible solutions. These skills are indispensable when working on your graduate project.

The group critiques can take different forms and structure whether they occur as part of, for example, the research within a Thematic seminar, or the development of a graduation project. The format for each of these are published in the Lens-based Media wiki calendar.

4.8   Virtual Learning Environments (VLE)

Using a range of virtual learning environments is fully part of the pedagogical approach of the Lens-Based Media study course, and the professional fields in which the course operates, where innovative and critical use of technology is essential.

Next to the software services and network platforms offered by WdKA and HR, you will be using two types of systems that all together form our unique approach to virtual learning environment (VLE):

Wikis for staff, students, guests and alumni. The wikis are used to develop and publish our public curriculum, publish our calendar, publish and maintain a knowledge database, and publish and maintain the live documentation and archiving of the works and research done within the program. The wikis are administrated by the staff and self-hosted at PZI (migration in progress). The course wikis are public, you can register using any email address if you like, use a pseudonymous identity, and edit yourself all the material and content you are contributing. Material that you decide to make public through the wiki and that is related to course projects and graduation can be archived for documentation and course audit purposes.

Email discussion lists for staff, students, guests, and alumni. The lists are used to communicate about the course organisation, share information, events, call for papers/works, etc. The lists are administrated and hosted by the staff. The lists are private. There are no archives, you can register using any email address and a pseudonymous identity if you like.

5   Assessments – types of assessment and their timing within the two-year course

As a preface to this section on assessments it is important to emphasize that a sense of maturity and self-assessment constitutes the basis of the advanced level and quality of post-graduate Master studies.

Next to your tutors' formal assessments, it is imperative to remember that through dialogue-based learning within each part of the course, you should be continually assessing and reflecting upon your work in development amongst your peers and tutors. Peer-reviews and tutorial feedback are essential learning tools within all elements of the curriculum.

Archiving your work as a key part of all presentations for assessments

It is important to note that the documentation of your research and the delivery of coherent evidential material (films, photographs, code, print material, documentation etc) is a pre-requisite for passing any assessment and earning the relevant ECTS points. This material must submitted to the exam panel as stand-alone files on the computer designated as the departmental archiving machine for the exam panel to review prior to the examination panel interview.

5.1   Matrix / Timetable of Modes of Assessment.

The following table lays out both the modes and timetable of assessments with the two-year program.

YEAR 1

Trimester 1 – There is no formal assessment in Trimester 1. The ECTS points awarded for the work of Trimester 01 are awarded with the completion of the first integrated assessment at the end of Trimester 2	

Trimester 2 - At this juncture students are expected to prepare and deliver a formal presentation of the work and research they have undertaken so far, and discuss with a team of tutors what they have learned, and how they might steer the next phase of their studies.	
Integrated Formative Assessment	Reading, Writing and Research Methods
	Self-Directed Research (including prototyping and special issue)

Trimester 3 – There is no formal assessment in Trimester 3. The ECTS points awarded for the work of Trimester 03 are awarded with the completion of the second integrated assessment at the end of Trimester 4	

YEAR 2

Trimester 4 - At this juncture students are expected to prepare and deliver an initial formal proposal for their final graduation research in which they analyse the questions and methods running through the work they have realized so far. They receive discursive feedback during the assessment, a written report of the discussion and an individual assessment report, in which the tutors present their conclusions and recommendations regarding the overall progress of their self-directed research and proposed next-steps.	
Integrated Formative Assessment	Reading, Writing and Research Methods
	Self-Directed Research (including prototyping)

Trimester 5 – There is no formal assessment in Trimester 5. The ECTS points awarded for the work of Trimester 05 are awarded with the completion of the third and final integrated assessment at the end of Trimester 6	

Trimester 6 - Final Assessment of Graduate Project/Thesis. At this juncture students are expected to prepare and deliver a formal presentation of their finished graduation project and related graduation thesis. The graduation project should have resulted in a presentation of new work, as well as a thesis that both demonstrate the agreed learning outcomes (as laid out in the Course hand book Sections 3.4 and 3.4.3) and satisfy the agreed Assessment criteria (as laid out in the Course hand book Section 5.10) for a Graduation Project at a Master level.	
Integrated Summative Assessment	Reading, Writing and Research Methods
	Self-Directed Research (including prototyping)

As you can see from the table above, we regularly formally monitor and reflect upon your progress.

At postgraduate level, it is of crucial importance that you effectively integrate skills and knowledge into your developing practice. For this reason we use Integrated Assessments to evaluate how effectively you are bringing together the new knowledge and skills you acquire into mature self-directed practice-based research.

These assessments take place three times during your course in total: Trimesters 2, 4, and 6. See below for specific details of each assessment.

For each of these assessments criteria have been formulated that incorporate a series of progressing learning outcomes: requiring an increasingly substantial, precise and complete body of research and work that demonstrates a developing practice and working methodologies.

In this way these Integrated Assessments act as a check on the developing skills, knowledge and insights of the student as they progress through the course: they create a significant formative evaluation point for the student.

Any integrated assessment will take the specificities of your own practice into account, and will also ask which criteria you have developed for your own work and how you have employed them in taking decisions in developing your practice. Your own developing criteria are specific to your practice and essential to your abilities as an independent practitioner.

In other words: what is being assessed is not a set of separated skills and aspects of knowledge, or the work you have done in one single module or project, but your ability to use and integrate skills and knowledge to be an independent learner and practitioner and to produce work on an advanced professional level. These qualities are reflective of Master level studies according to the Dublin Descriptors. (see Dublin Descriptors section)

These Integrated Formative Assessments are undertaken by a panel consisting of core tutors and moderated by the Course Director, who each give their individual appraisal and then agree on a joint assessment.

Formal Summative Assessments are undertaken in trimester 2, 4 and 6: based on these credits are given, a written exam report is returned to each student as feedback, and the student work and written report of the assessment process is archived. Trimester 2 is in year one (40 ec) en 4 and 6 in year 2 (80 ec).

However, the workload is consistent throughout the program: the core of the curriculum is an emphasis on Self-Directed Research. While teaching support is given through workshops, seminars and individual tutorials, the student is required to demonstrate a   master level ability to frame and undertake a consistent and continuous process of self-directed research. This process needs time to develop and can only be consistently assessed after several months of work on the part of each student. Thus a formal assessment every two trimesters gives students time to plan, execute and reflect on a substantial period of research before each assessment. In this way a bi-trimester formal assessment cycle is most appropriate for the program. Contact hours and the study workload remain equally divided between each trimester.

To further support this assessment cycle we also undertake formative progress checks in trimesters 1, 3 and 5 (no credits).

This involves a student sharing current research progress with a panel of tutors and receiving feedback and agreeing topics to be further discussed in individual tutorials. There are no credits awarded for these checks and the students receive oral feedback and individual tutorial support after the check point via follow up tutorials.

5.2   Specific Assessment criteria for the periodic Integrated Assessments

5.2.1   Integrated Formative Assessment (Trimester 2)

The first integrated assessment is held in the end of the second trimester. Passing this integrated formative assessment allows the ECTS for the first two terms to be awarded.

At this juncture you are expected to prepare presentation of the work and self-directed research you have undertaken in the context of the thematic seminars and around them, and discuss with a team of tutors what you have learned, and how you might steer the next phase of your studies.

In other words, we would like you to show us the purpose, the methods and the outputs of the research you have been undertaking in your first two terms at PZI. We want to see primarily the work you have been undertaking as your self-directed research, but we are also interested in how you have engaged with -- and what you have taken from -- the Toolbox

sessions and the Thematic Seminars, as well as methods you have developed in your READING WRITING & RESEARCH METHODS seminar.

You are required to make a presentation with visual support: please show us concrete examples of the work and **bring any drafts, and prototypes you have developed**, as well as describing your research thinking and procedures. We want to know what you are making, how you are making it, and why you are making it.
Prior to the assessment process you must archive documentation and elements of the work and research you wish to submit for examination. We will not pass people who have not delivered appropriate documentation of their work on time. See http://pzwiki.wdka.nl/mediadesign/Archive_Protocol for archiving instructions.

This integrated assessment is a moment for not only staff to assess where you are, but also an opportunity for you to reflect on what you have done so far. In other words, it is intended as a moment to take stock in terms what you have done, and elaborate on further developing interests (both conceptually and technically). Crucial to this assessment is your capacity not just to show your successful projects, but your ability to reflect on points of improvement - in other words, the ability to talk about your failed experiments, and what you have learned from them, is just as important as speaking about what worked and why.

5.2.2   Integrated Formative Assessment: Proposal Phase (Trimester 4)

The second integrated assessment is in the fourth trimester, and evolves around the graduation project proposal. Passing this integrated formative assessment allows the ECTS for third and fourth terms to be awarded.

In the proposal you analyse the questions and methods running through the work you have realized so far, formulate an artistic question and approach for further research, and establish a critical framework relevant to your practice. The graduation project proposal marks the transition from the first to the second stage of the study program, and should thus give evidence of your ability to use what you have learned in the first stage to inform and steer a self-directed artistic research project.

The assessment criteria for the Graduation Project proposal are:

- The ability to select appropriate topics for advanced research.
- The ability to develop and undertake a suitable strategy for research.
- The ability to critically reflect upon, analyse and evaluate work already undertaken and to use the knowledge gained to (re)define the aims and direction of future practice.
- The ability to describe and motivate objectives, topics and methods in a written proposal.

The assessment panel also takes into account whether the proposed project is realistic in scale and ambition, considering the limited time frame for the graduation project. This integrated assessment is called Proposal Phase and is supported through the Graduate Research Seminar.

Prior to the assessment process you must archive documentation and elements of the work and research you wish to submit for examination. We will not pass people who have not delivered appropriate documentation of their work on time. See http://pzwiki.wdka.nl/mediadesign/Archive_Protocol for archiving instructions.

5.2.3   Integrated Summative Assessment: Graduate Project/Thesis (Trimester 6)

The fourth and final integrated assessment is held at the end of trimester 6. At this juncture students are expected to prepare and deliver a formal presentation of their finished Graduation Project and related graduation thesis. Passing this integrated formative assessment allows the ECTS for fifth and sixth terms to be awarded.

The Graduation Project should demonstrate the insights and experiences gained throughout the program and to translate their implications into individual work and working methods. In this process, students are expected to be able to not only produce new work, but also to develop a strong sense of the criteria that are crucial for the evaluation and development of their own creative work.

Accompanying the Graduation Project all students write an essay or 'project report' developing ideas related to or directly arising from the project. This Master thesis is of the length of circa 7,000 - 8,000 words.

You are required to deliver to the MFAD: Lens-Based Media Administration Office: 3 Hard copies + a low resolution PDF (not above 1.5 megabytes). The printed copies should be: A4; text in a point 12 legible typeface; with numbered pages.

The title page should state:

[Your Name]
[Title]
Thesis submitted to: the Department of Lens-Based Media, Piet Zwart Institute, Willem de Kooning Academy, in partial fulfillment of the requirements for the final examination for the degree of: Master of Arts in Fine Art & Design: Lens-Based Media.
Adviser: [name]
Second Reader: [name]
Word count: 8000 words (max)

Assessment Criteria for a Graduation Project

The graduation project should result in a presentation of new work, that combined with the thesis demonstrates the student's attainment of the agreed learning outcomes (as laid out in the Course hand book Section 3.2). In this way the programs' agreed Final Competencies from the basis of the Assessment Criteria for a Graduation Project at a Master level.

1. Creative ability: They have developed the independent learning ability required to create innovative, challenging, significant, and coherent projects that are based on clearly articulated approaches and intention.
2. Capacity to conduct self-directed research: They can identify relevant subject matter, questions, and formulate distinct areas of research.
3. Research methodologies: They can harness skills of research, analysis and synthesis to the development of creative projects.
4. Technical fluency: They can demonstrate an analytical grasp of the underlying technical and conceptual principles of practices relevant to their field and work.
5. Organisational skills: They have the capacity to design, manage and execute effectively, complex and creative projects on their own or in collaboration with others, which bring together original combinations of media forms.
6. Capacity for innovation: They have developed flexible work practices that can be employed in a wide variety of production contexts and have the technical conceptual skills for dealing with new forms and unforeseen challenges.
7. Critical reflection and awareness of context: They can critically reflect on relevant issues related to a larger social context and make informed decisions about the positioning of their work and methods of production. This critical reflection should be expressed through both practice, and verbal analysis of intention: reflections on process and creative output.
8. Communication skills: They can communicate their intention, context, process and perceived results– with clear written and oral descriptions to both experts and general audiences.

6   Assessment Procedure

6.1   Integrated Assessments

As described above, all the integrated assessments, both formative and summative, involve a formal presentation to a panel of tutors across both the specialisations of the course and chaired by the Course Director. This allows a check that there is a consensus across the department as to the level of achievement of each student and acts as a check on the individual tutors marking the module summative assessments.

Prior to the assessment process you must archive documentation and elements of the work and research you wish to submit for examination. We will not pass people who have not delivered appropriate documentation of their work on time. See http://pzwiki.wdka.nl/mediadesign/Archive_Protocol for archiving instructions.

6.2   Internal and external checks on the assessment procedure that ensure that the quality of the system is effectively monitored

The level, clarity and fairness of assessments are gauged through a matrix of checks and balances that occur on multiple levels from students, to staff, externals and the Exam Board.

These mechanisms can be seen as an ecology of monitoring devices where if one system fails, another should catch the problem and plans made for rectification.

The department utilises the following types of internal and external checks on the assessment procedure.

6.2.1   Regular Quality Assurance Student Meetings and Bi-annual Quality Assurance Student Questionnaires

The informal Quality Control meetings allow students to present feedback directly to the Head of Department and the more formal written Quality Assurance Questionnaires administered by the WdKA Quality Assurance act as a safety check on the student's understanding of the fairness of the assessment procedures and its communication (see section 2.5.3).

6.2.2   Clarity of Communication of Assessment Criteria to students through formalising of Grading Forms

Assessment forms are available on the course Wiki for download by you to give a clear point of reference for an understanding of assessment criteria for any specific assessment.

6.2.3   The WdKA Exam Commission

Any student who contests an assessment result has the right to bring his or her case before the WdKA Exam Commission and request that the examination process be scrutinised for transparency and fairness.

6.2.4   Final Thesis Grading

A grade is always given by two tutors (the writing tutor & a second reader). If one reader recommends a resubmit and the other a pass, a third tutor will be designated to give a grade for the text. This will secure a 2-to-1 pass or a 2-to-1 resubmit.

6.2.5   Role of the External Examiner

The assessment process of the Final Graduation Project is monitored by one external examiner. The main task of the external examiner is to make sure that assessment procedures are carried out properly, and that students are treated fairly; and to ensure that the graduation projects are of an appropriate professional standard, and up to par with comparable Master programs elsewhere.

For this reason, the final assessment involves an external examiner nominated by PZI. This external examiner may look at all examination work and meet with all students prior to the assessment, or follow a sample selection of students throughout their graduation project research.

The external will write a follow-up report on their findings, and this will be submitted to the official academic files for possible monitoring by the Exam Commission or external auditing or accrediting bodies. In order to maintain objectivity, new externals are selected every three years.

6.2.6   Exam Regulations

The principles of assessment are formally laid down in the Exam Regulations (Onderwijs en Examen Regeling) of the WdKA.

7   Grading and Procedures

You will receive an overview of the credits you have gained at the end of each trimester.

You receive progress reports on your developing the proposal and project at each integrated assessment.

In addition you will receive personal feedback during the integrated assessment meeting, as well as a full written report with suggestions and recommendations, leaving sufficient time for substantial additional work and research before the final assessment of your graduation project.

7.1   10 Point Grading System

Your work will be graded using a Ten Point Grading System. Throughout the course all submitted work will be assessed with one of the following grades:

MARK	GRADE	HR GRADE	HR DESCRIPTOR	GENERIC DESCRIPTOR	SUFFICIENT
10	A+	U	Pass with Distinction	Level of achievement is exceptional	YES
9	A	ZG	Pass with Merit	Level of achievement is excellent	YES
8	A-	G	Very Good Pass	Level of achievement clearly exceeds threshold for pass	YES
7	B+	RV	Good Pass	Level of achievement exceeds threshold for pass	YES
6	B	V	Pass	Level of achievement meets threshold for pass	YES
5	C	T	Near Pass	Level of achievement nearly meets threshold for pass	NO
4	D	O	Fail	Level of achievement does not meet threshold for pass	NO
3	D	D	Bad Fail	Level of achievement fails to address learning outcomes	NO
0	E	E	Cannot be assessed	Failure to submit or plagiarized work	NO

The precise learning outcomes and specific grading criteria for each curriculum element are laid out in detail in the individual GRADING FORMS that can be downloaded from the course wiki.

To qualify for the Distinction (Cum Laude) on the diploma a grade average of 8.5 must be achieved.

7.2   Written Feedback on Assessments

You should receive a written report on the outcome of the assessment within a few weeks after each integrated assessment. If amendments or more substantial revisions are required, you should receive a clear outline of what extra work is required and an appropriate deadline.

If, for any reason, you completed only part of your studies, you can ask for a statement with an overview of the credits you gained and the course elements in which you participated.

7.3   Plagiarism

Not properly referencing your sources is plagiarism. PZI takes the offence of plagiarism very seriously and it can have very serious consequences for the perpetrator. Plagiarism means to present work done by others as your own. While an interesting discussion about the tactical use of plagiarism in activism and experimental arts is on-going, not crediting your sources is unacceptable in course work, because it is dishonest to your tutors and fellow students and prohibits others from using your paper as a point of departure for their own research. If detected, plagiarism invalidates your essay or practical work, and may result in further disciplinary procedures, including expulsion from the course.

7.4 Intellectual Property

While some universities claim rights over student work, PZI does not. Students retain the right to their work and can license projects (or not) as they deem appropriate.

We suggest that you inform yourself about the numerous licensing possibilities and their legal consequences, from standard copyright mechanisms to free culture and open access alternatives.

When publishing or exhibiting works produced during your studies or through funding from the institute, please acknowledge the Lens-based Media course of the Piet Zwart Institute in the credits.

8 Deadlines, Failure, and Resubmission

8.1 Missing the Deadline

Normally your graduation project proposal should be submitted by a specified deadline in the fourth trimester and your graduation project by a specified deadline in the sixth trimester. If you don't manage to complete your proposal or graduation project before the deadline, you will have to submit what you have at that moment for critical evaluation by the assessment panel. Based on the research you have already done and the progress you have made, they may agree on granting you an extended submission deadline. A deadline for an extension is given only once, and if you miss the second deadline, no further extensions will be given.

8.2 Failure and Resubmission

If your graduation project proposal or graduation project has been assessed negatively, the assessment panel may invite you to resubmit it after substantial amendment and reworking. This decision will be based on the research you have already done. What this amendment involves will be discussed with you in detail. A chance to resubmit is given only once.

8.3 Extenuating Circumstances

Students may be prevented from submitting work on time or unable to participate in course work because of exceptional personal circumstances. In such cases an adapted study plan may be negotiated with the Course Director. However, it is the responsibility of the student to inform the Course Director timely of any (possible) extenuating circumstances. These are defined as being circumstances beyond the student's control, generally of medical or personal nature, affecting the student for any significant period of time and/or during the examination period. The student may be asked to submit appropriate third-party evidence to support their claim.

9 Master Degree Offered

The Lens-based Media Master is fully accredited and reviewed by the NVAO (Nederlands-Vlaams Accreditatie Organisatie), the standard academic accreditation council for the Netherlands and the Flemish part of Belgium, and fully subsidized by the Dutch state. The Master of degree we offer is a Master of Arts in Fine Art & Design (MFAD).

10 Protocol Student Quality Assurance

Student quality assurance involves procedures for monitoring and evaluating the level and quality of the master programs of the WdKA. These procedures are part of what the WdKA and HR refer to as the "plan-do-check-act-cycle" of the programs. These checks and balances through feedback consist of conversations, enquiries and an anonymous questionnaire.

The formal activities for student quality assurance are:

2. Program evaluations
3. Quality assurance questionnaire
4. General quality assurance meeting

The Course Director of the program is involved in the program evaluations. This ensures informed feedback directly related to the content and structure of the course for the students and gives the opportunity for the Course Director to respond to problems and immediately bring about possible solutions.

Neither direct staff nor the Course Director are involved in the activities 2 and 3, in order to have an extra independent, objective check on the running of the Course.

Furthermore, students can meet individually with the Course Director or Course Coordinator at any time for questions or issues that pertain to their individual needs or that cannot wait until the next course meeting.

Clarification student quality assurance activities

10.1 Program evaluations

Program evaluation meetings are organised three times per year (once a trimester) for a review of the program as a whole. Discussed are aspects such as the course structure, the relation between course elements, the choice of themes and working methods, the workload, the quantity and quality of tutorial support, the assessment procedures and other issues relevant to the program. These meetings can be held in lieu of a monthly course meeting and are moderated by the Course Director.

10.2 WdKA Quality assurance questionnaire

Once a year, students will be required to fill out an anonymous questionnaire. The Quality Assurance employee will collect the data and write a report about the results. This report will be provided to the students, staff and Course Director. It will also be used to monitor the course as a whole through external accreditation bodies. Next to this, issues raised and points of improvement will be reflected upon in the regular course meetings.

10.3 General quality assurance meeting

Each year the quality assurance employee has a conversation with the students of all master programs, to collect and register student feedback. This feedback and the results of the enquiry will be discussed. Furthermore the process of quality assurance will be evaluated. The quality assurance employee will write a report about the meetings and will talk about this report with the Course Directors. During the regular course meetings the Course Director will reflect on possible points of improvement with the students.

10.4 Reports

The three activities revolving around student quality assurance will be noted through meeting minutes and reports and then made available to students, the Course Director and the quality assurance employee.

The outcomes of the activities are brought together in an annual report. This report follows the quality assurance guidelines established by the Rotterdam University of Applied Sciences, in order to guarantee a periodic review of targets, results and measures taken for the improvement and development of the curriculum, facilities and management of the course. They are also given to external accrediting and auditing bodies to measure plans of actions and response.

10.5 Evaluation

A quality assurance employee will evaluate the process annually in a meeting with the Course Directors and the Director of the master programs. In the general Quality Assurance Meeting, the process of quality assurance will be evaluated with the students.

10.6   Quality Assurance Schedule

Program evaluations

1st meeting: between Nov. and Dec.
2nd meeting: between March and April
3rd meeting June

Quality assurance questionnaire   Between 20 May and 7 June

General quality assurance meeting   Between 20 May and 7 June

In addition to these measures, the Course Director also reviews the program with the core tutors on a regular basis. Twice a year, the group of tutors discuss the program jointly, giving feedback, voicing critical issues and offering suggestions for improvement. Furthermore, the Course Director conducts a yearly evaluation with each individual tutor. The program thus integrates the input of the core tutors and students in its continual development.