

## Draft Overview of Year 2, Creative Technology

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Version 0.1, Dennis, Edwin

Rough outline of **second year** in modules. Per module a light sketch of what will happen, reference to currently existing courses that contribute towards each module, and some observations on the most important changes with respect to the current program.

*Note: Throughout the year, there is 2EC tutoring (0.5 EC/block).*

*Note 2: Modules 5&6 are perfectly positioned to be a cohesive Minor for other programs: The minor CreaTe/ST and CreaTe/NM. Of course, for some external observers this will raise the question why we think we need the rest of the CreaTe program at all.*

*Note 3: Module 7 would be very easy to share with Computer Science.*

## M5/1A Introduction 2<sup>nd</sup> year: performance

This module offers a shared introduction to the second year, in preparation to the split-up in tracks NM&ST. A recurring theme here seems to be *performance* (storytelling, audio, stage plans). If Programming with Structures gets a bit of a “generative art” flavor this might even add some more cohesion.

- Storytelling (was: animated narration). needs new teacher if in this block. Preferably a real storyteller. Literature, poetry, movie, theatre. **Wim Wolbrink and Moes Wagenaar? A movie maker? A writer?**
- Programming with structures: **Angelika Mader**
- Systems and signals I & II: **Anton Stoorvogel**
- Audio (and signals): spectrum analysis, fft, oscillator synthesis, ... **Jan Koornstra**
- Stage productions: live sound engineering, basic knowledge stage plans for light and sound **Jan Koornstra, Vrijhof Cultuurcentrum NEW**
- Vector math for NM: ???

## M6-1/1B New Media

This module covers theory, materials, and applications for New Media. In particular, the materials of sound and graphics are combined with concepts of games, experiences and users, to tackle the big theme of Serious Games: Developing game play for persuasion, behavior change, and societal change.

- Materials: Sound Engineering part II **Jan Koornstra** (foley, voiceover, music & speech, interactive audio for games, recording techniques)
- Materials: Graphics and animation **Job Zwiers**
- Integration: programming interactive sound and graphics? **NEW**
- Theory: Game Development **Dennis Reidsma**
- Application in practice: Serious Games **Anton Eliens**

## M6-2/1B Smart Technology

This module covers theory, materials, and applications for Smart Technology. Leading case is the design of a human interface design like the WiiMote, dealing with all necessary aspects of Electronics, Sensing, Data transmission and Control. Application is implemented in lab assignments (both in lab and in toolbox setting) and in cooperation with the Vrijhof in theatre.

- Theory: electronic networks, filters, circuits, first order, second order behaviour
- Theory: sensing, acquisition, conditioning
- Theory: telecom, modulation, media, transmission, osi layer, networking

### 2012/13 courses contributing to module:

- Audio part I
- Systems and Signals part I
- Programming with structures
- (Animated) narration
- **Systems and Signals part II (ST preparation)**

or

- **Vector math (NM preparation)**

### Main differences in content wrt 2012/13:

- (Animated) narration needs new teacher if in this block. Preferably a real storyteller. Literature, poetry, movie, theatre. **Wim Wolbrink and Moes Wagenaar?**
- New stage engineering component
- New vector math for NM

### Knowledge and theory:

### Skills:

### 2012/13 courses contributing to module:

- New Media

### Main differences in content wrt 2012/13:

- An extra programming component (scripting, interactive sound&graphics)
- Some audio moved to shared part in M5

### Knowledge and theory: Game development,

### Skills: reading and dealing with literature

- Theory: control, loop control, (learning) feedforward, feedback, PID, Fuzzy, Digital control
- Math: Time domain vs. frequency domain Fourier, Laplace, complex numbers
- Materials in Lab: lab assignments (WELP) and toolbox assignments (electronics, sensors, control)
- Application in Practice: Theater engineering, Power electronics, DMX, signal, Light & Sound on Stage
- Instead of an integration project a leading case such as a drawing robot or wiiMote controller

## M7/2A User Experience and Research

This module is about research and about user experience. The *content theme* of the integrating project is Ambient Screens; this can be fulfilled from any background with enough technology skills: Smart Technology, New Media, Computer Science, ...

- Ambient Screens: integrating project (*see manual 2012*)
- Social data (WS&DDA): *Databases; web services; working with big & social data as material; techniques for such*
- Research foundations: *Philosophical foundations of research; research paradigms of science, (math, logic, humanities, physics, ...); relation between CreATe and experimental research; critically analyze research and reported research findings*
- Developing and using validated questionnaires: research methods for UX (*was part of Rik's course*)
- Design for experience **NEW Betsy van Dijk**
- Engineering Digital future Ch 6 – coding for information and security
- Math Refresher: SPSS Survival
- Math: Strategies and Protocols / Queues and Logistics. *Can these be applied to modeling user interaction?*

### 2012/13 courses contributing to module:

- Ambient Screens
- Web services and Data driven applications
- I&E "research" course
- Research methods
- QL / SP

### Main differences in content wrt 2012/13:

- Part of Rik van Reekums 2013 course gets lifted out and reused in this module (the part about designing, and working with, validated questionnaires)
- An additional User Experience component will be added to the original Ambient Screens material; this will be led by Betsy van Dijk
- Data Driven Applications is moved to this module as part of the content theme

### Knowledge and theory:

### Skills:

## M8/2B Integration and Business

Hybrid Worlds, Startrix, new AT-like business component on theoretical side of business plans, patents, etcetera.

In the Hybrid Worlds Creative Application, the ST and NM students will explicitly get track-specific learning goals (and feedback, and evaluation) besides the shared ones.

In dit blok is ook een *individuele* afsluiting: de afsluiting van Creative Explorations Art Science & Technology. Mensen mogen dit project wel al eerder starten (?)