Creative Systems Design (CSD)

Year 2				Year 3	
CSD2a	CSD2b	CSD2c	CSD2d	CSD3	Project 3
Education	Education	Project	Project	Group project	Fundamental
Class Lecture, practice + assessment	Class Lecture, practice + assessment	Class Lecture, project + presentation	Class Lecture, project + presentation	Project group Coaching Meetings with client + presentation	Individual Coaching Study group + presentation
Theory Theory (basic)	Theory Theory (with student input)	Project Private project with theory on demand + groupwise knowledge development	Project Design trajectory Documentation, User-driven design	Project path Working with deadline, planning Given project External or virtual client Theory on demand	Methods Design patterns UML Literature study
Coding Lang: Compiled, interpreted Rapid development: Max, PD	Coding Lang: Compiled, interpreted Rapid development: Max, PD	Design Coding Lang: free choice Rapid development	Specificy Design Coding Lang: free choice Rapid development	Design Coding Cooperation Talen: free choice Rapid development	Research Free choice of languages and tools
Tools Git	Frameworks openFrameworks JUCE	Hardware RPi Mobile devices	Hardware RPi, Arduino	Tools	Tools
DSP Theory +	DSP Theory +	DSP Theory +	DSP Theory +	DSP Theory +	DSP Theory +
Teacher defines, st	application	application	application	application	application s lead, teacher cares

Audio encoder script Loop slicer Arbitrary rhythm generator

DSP-techniques for creative applications

Comb filter FIR filter Impulse response

Guitar effects Real time audio w GUI

Sound & music using chaotic and evolutionary algorithms

Modulator Spectrum & timbre Fourier transform

Audio analysis & visualisation Spectral mapping Synthesis & Sequencing Real time audio w hardware control

> Filters Biquad Karplus-Strong
> Physical modeling

Big data science Music Information Retrieval Artificial Intelligence

Mobile music app VST plug-in PD/Max-external

> Pole/zero Allpass filters Convolution Reverbs

Composition toolbox

3-D sound

Interactive performance or installation

Music Information Retrieval Sound descriptors Spectral flux Score following

profiles

Professional

Facilitating music technologist

Performer with own instruments

Instrument developer

Tool developer

Application developer

Software library developer

Sound library developer

Plug-in developer

System developer

Composer

Researcher

Beat tracking Music analysis