### Module Preparatory course programming 2018-2019

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| **master DSLS** | **Year 1** | **Semester 1 Q1** |

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| Coordinator | Ronald Wedema |
| Lecturer | WERD |
| Code | BFVM18PROGR |
| Content | **Overview**  The course will start with introducing the basic programming concepts, code organization, data types, structures and functions/standard libraries. Followed by more advanced technologies like the concepts of object oriented programming  **Context learning line**  In this course, the student will revise basics of programming in preparation of the programming 1 course needed for the quantified self project assignment. This is one of the three optional modules of the Preparatory course. Its intended for students without a sound background in programming. |
| Learning outcomes | The student   * can use different datatypes * uses the Python flow control logic * can implements functions, make/use modules /write text files * implements exceptions handling * write, document, test and maintain software products * translate a given problem into a robust and flexible object-oriented software design * Work with advanced Python concepts, like: decorators, generators, comprehensions, \*args/\*\*kwargs) |
| Program outcome | Deliver organized solutions (DO)  Model meaningful information (MM)  Communicate effectively (CE) |
| Teaching method | Each week one tutorial (1.5 hr) with intro concept and tutorial assignment  Each week one (1.5 hr) tutor group setting with feedback and progress assignment |
| Language | English |
| Literature | Barry, P., 2016. *Head First Python: A Brain-Friendly Guide*. O'Reilly Media, Inc.  C1; The Basics: Getting Started Quickly  C2; List Data: Working With Ordered Data  C3; Structured Data: Working With Structured Data  C4; Code Reuse: Functions and Modules  C5; Building a Webapp: Getting Real  C6; Storing and Manipulating Data: Where to Put Your Data  C8; A Little Bit of Class: Abstracting Behavior and State  C10; Function Decorators: Wrapping Functions  C11; Exception Handling: What to Do When Things Go Wrong  C12; Advanced Iteration: Looping Like Crazy |
| Web | Blackboard |
| Assessment | Computer exam |
| Mandatory | Based on the decision of the admission committee a student has to fulfill the exam. Presence is not mandatory but strongly adviced. |
| Credits | 2.5 |
| Contact time | 12 |
| Self study time | 58 |
| Prerequisites | Admission test |
| Frequence | 1× per study year |