EDU4Chip Project Plan

Contents

1 Lectures (T1)

When the over all lecture plan has been approved then the documentation process can be started which describes which lectures are mapped to which days and also the contents of the lectores in an overview form.

The lectures which are available are found in Table 1

No.	Title	Available	Comment
L00	General Introduction	Yes	
L01	Python Introduction	Yes	
L02	Verification Tools	Yes	
L03	Simulation Semantics	Yes	
L04	CRV Intro	Yes	
L05	cocoTB Introduction	Yes	
L06	UVM Intro	Yes	
L07	UVM TB Toplevel	Yes	

Table 1: Overview of available lectures

2 Exercises (T2)

When the over all exercise plan has been approved then the documentation process can be started which describes which exercises are mapped to which days and also the contents of the lectores in an overview form.

The exercises which are available are found in Table 2

No.	Title	Available	Comment
E00	Computer Setup	Yes	
E01	Python Exercises	Yes	
E02	Intro CocoTB Exercises	Yes	
E03	SAT CocoTB test	Yes	
E04	SAT UVM TB Walk Through	Yes	

Table 2: Overview of available exercises

2.1 Exercise Documentation

The detailed description of the exercises and the information needed to understand the SAT DUT and the backgraound elements of the testbench are found in the "exercise/" folder. Ducumentation includes a PDF file generated by multiple LaTex for the extensive description and a number of powerpoint slides with a summarized version of the topic and exercises included in the PDF.

2.1.1 E00: Computer Setup

This exercise objective is to allow the students to correctly setup their computers (either Windows or Linux machine) and install all the necessary tools. For Windows students the Linux environment is installed with a WSL or Docker.

2.1.2 E01: Python Exercises

Small set of Python exercises which will teach the students basic Python skills.

2.1.3 E02: Intro CocoTB Exercises

Small set of CocoTB exercises which will introduce the students to the Make flow for CocoTB and also introduce some real CocoTB constructs.

2.1.4 E03: SAT CocoTB test

This exercise objective is to familiarize with the cocoTB by implementing a test to generate some input stimuli to the SAT DUT and compare the output of the DUT against a golden reference generated by the reference model.

2.1.5 E04: SAT UVM TB Walk Through

This exercise objective is to provide an overview of the SAT testbench and the generic components of a UVM testbench, as well as familiarizing with the simulation flow, Makefile and the waveform viewer tool, GTKWave.

3 Lecture Plan

This section shows different lecture plans on how to perform the lectures. Each section describes a possible execution plan for the course.

The lectures ae taken from the Table 1 and the exercises from Table 2.

3.1 Full Semester Plan

This lecture plan try to cover a full university semester, covering 13 weeks of lectures and exercises, ending with a small exam, constituted of a written report and an oral presentation.

Lecture	Topic 01	Topic 02	Topic 03	Ex 01	Ex 02	Ex 03
01	L00	L01		E00		
02	L02	L04		E01		
03	L05	L03		E02		
04	L06	L07		E03	E04	

Table 3: Lecture Plan for full university semester

3.2 Three Week Plan

This lecture plan is based on 4 x 1h 15m slots every day for 3 weeks (15 days as weekends are not a part of the working days), starting at 09:00.

It is exactly the same as the full semester plan, executing a lecture per day.