Digital Skills @ TU Delft

11 NOVEMBER 2019

Agenda

Introduction
        The team
        Our products & timeline
        Ambitions

Demo of Basic Python Programming
        (Bart Gerrtisen & Udo Ouwerkerk)

Q&A

The Digital Skills Team

Our Products

Module 1: **Basic Python Programming**
1 EC course dealing with Python basics
Implemented in the cloud via Vocareum and accessible via Brightspace

Module 2: **Intermediate Python Programming**
1 EC course dealing with Python concepts to solve simple engineering problems; flexible module that can be tailored to specific programmes

Learning Outcomes
Basic Python Programming

The student is able to:

Apply their general understanding of programming to write a simple programme:

- Apply the concept and scope of a variable in Python
- Define, change and print the value(s) of a variable
- Use standard coding styles and best practices
- Understand and use the basic commands, functions and data types of Python
- Understand and use the control flow statements, such as loops and conditional statements (if-then-else)
- Apply iteration on iterable data types, like lists
- Define and use logical expressions, such as equality and negation
- Define, implement and call a function in Python
- Import and use items from Python modules
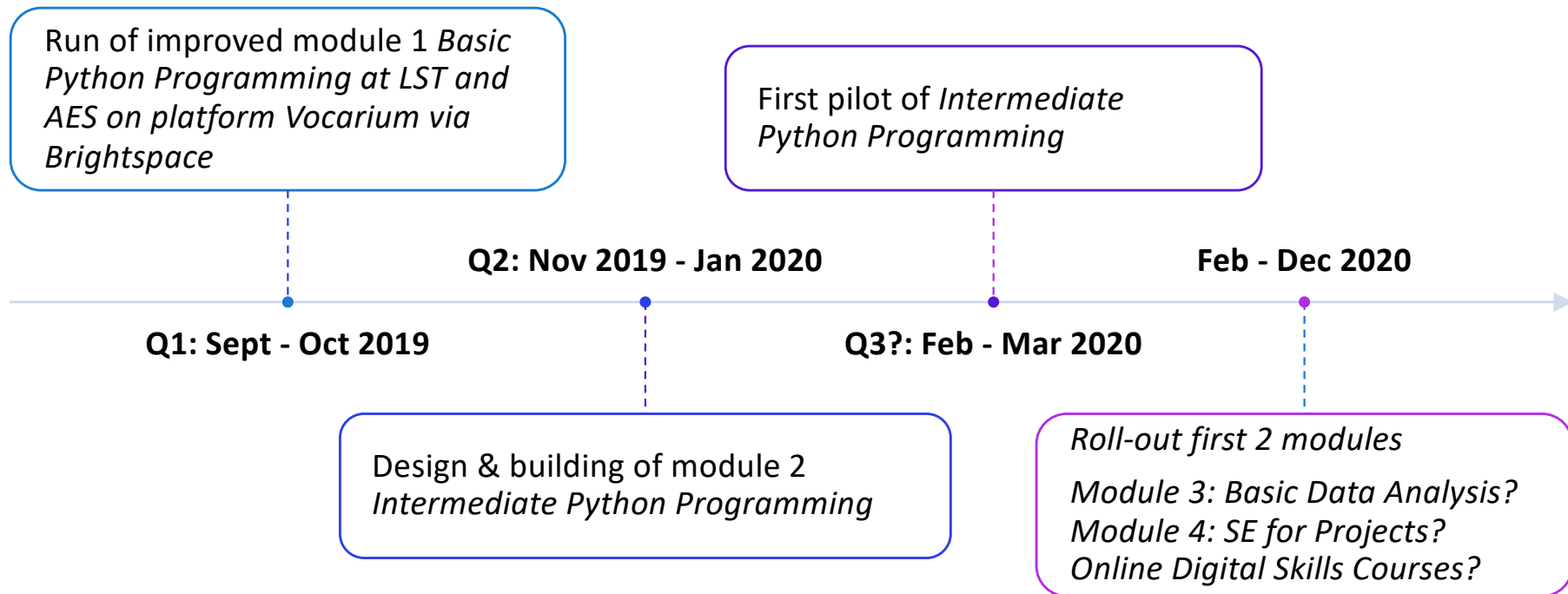- Basic printing and plotting

Intermediate Python Programming

We compiled a list of simple engineering problems each requiring specific features of Python.

Programmes select their problems or add these to the list.

We develop a flexible module which can be tailored to the wishes of the programmes.

Status and Planning

Run of improved module 1 *Basic Python Programming at LST and AES on platform Vocarium via Brightspace*

First pilot of *Intermediate Python Programming*

Q2: Nov 2019 - Jan 2020

Feb - Dec 2020

Q1: Sept - Oct 2019

Q3?: Feb - Mar 2020

Design & building of module 2 *Intermediate Python Programming*

Roll-out first 2 modules

Module 3: Basic Data Analysis?
Module 4: SE for Projects?
Online Digital Skills Courses?

Future Ideas

Module 3: **Basic Data Analysis** for engineering

Module 4: **Basic Software Engineering** for BSc, MSc or PhD (and other) projects

Online Digital Skill Courses where all developed modules are made publicly available with auto-grading or, better, intelligent feedback using Artificial Intelligence techniques

Questions?