|  |  |
| --- | --- |
| **Georg-August-Universität Göttingen**  **Modul B.MES.xxx: *Introduction to Computer Science and Programming*** | 6 C  4 WLH |

|  |  |
| --- | --- |
| **Lernziele/Kompetenzen:**  The objective of this module is to intoduce fundamental concepts in computer science and gain hands-on experience in programming using Python. Students will be intoduced to number bases, binary arithmetics, basic data structures, common algorithms, elementry components of programming (variables, conditionals, loops, functions, lists, dictionaries, I/O and classes), regular expressions, the unix operating system and usage of the command line, and asymmetric encryption (i.e. RSA algorithm, digital signatures). | **Workload:**  Präsenzzeit:  56 hours  Selbststudium:  124 hours |

|  |  |
| --- | --- |
| **Lehrveranstaltung: \*\*\* LV neu \*\*\***  *Angebotshäufigkeit:* each summer term |  |
| **Prüfung: written exam (90 minutes)** |  |

|  |  |
| --- | --- |
| **Prüfungsanforderungen:**  The students should be able to perform basic binary arithmetics, and exhibit:   * Understanding of the basic workflow of a computer program (in Python) * The ability to read program code, infer the behavior of the program and predict its expected output * The ability to create proper regular expressions for capturing desired patterns * Simple navigation skills in a unix command line |  |

|  |  |
| --- | --- |
| **Zugangsvoraussetzungen:**  None | **Empfohlene Vorkenntnisse:**  High-school level algebra and arithmetic skills |
| **Sprache:**  English | **Modulverantwortliche[r]:**  Prof. Dr. Winfried Kurth |
| **Angebotshäufigkeit:**  1 | **Dauer:**  1 semester |
| **Wiederholbarkeit:**  two times | **Empfohlenes Fachsemester:** |
| **Maximale Studierendenzahl:**  Not limited |  |

|  |
| --- |
| **Bemerkungen:**  Remarks |