| Georg-August-Universität Göttingen | | 6 C |
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| Module M.FES.719: Remote Sensing Imag Source Software | e Processing with Open | 4 WLH |
| Learning outcome, core skills: This combined lecture and lab makes the student familiar with basic principles, techniques and applications of remote sensing. The students learn skills in digital image processing and information extraction using open source software on own laptops. | | Workload: Attendance time: 56 h Self-study time: 124 h |
| Course: M.FES.719.C Remote sensing image processing with open source software (Lecture, Exercise) <i>Contents</i> : The course introduces the theory of remote sensing image processing and applications of remote sensing workflows implemented in Python and Jupyter Notebook. Remote sensing data from different sensors (cameras, LiDAR scanners, RADAR) and platforms (satellites, aircrafts and unmanned aerial systems (UAS)) are used to develop analysis workflows for forestry and environmental monitoring applications. Common steps and methods of remote sensing analysis such as preprocessing, image enhancement, sampling of reference data, automated classification, change detection and map validation are presented. In the practical labs students learn how to use Python for remote sensing image processing as well as being confident to try to manipulate and understand more complicated Python scripts. | | 4 WLH |
| Examination: Written examination (90 minutes) M.FES.719.Mp: Remote Sensing Image Processing with Open Source Software | | 6 C |
| Examination requirements: Bases of electromagnetic radiation and its interactions with the atmosphere and terrestrial land cover types Basic techniques of remote sensing image acquisition, pre-processing, enhancement and classification – as covered in the lectures and labs Knowledge and skills regarding application of the software as used in the practical labs Manipulate and execute Python scripts Assessing quality of remote sensing products, including accuracy analysis | | |
| Admission requirements: none | Recommended previous knowle Good command of forest mensura | dge: tion and forest |

| | inventory, including calculation skills regarding analyses of inventory data. | |
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| Language: | Person responsible for module: | |
| English | Prof. Dr. Christoph Kleinn | |
| Course frequency: | Duration: | |
| each winter semester | 1 semester[s] | |
| Number of repeat examinations permitted: | Recommended semester: | |

| cf. examination regulations | |
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| Maximum number of students: not limited | |