Georg-August-Universität Göttingen **Master Program Crop Protection** **Module M.Cp.0025: Analytical Techniques for Foods and Agricultural Research**	6 C 4 SWS

Contents: The module will include various topics related to chemical analysis methods in agricultural sciences. The analysis of plant primary and secondary metabolites (such as carbohydrates, amino acids, organic acids, phytohormones, phytoalexins, glucosinolates, and volatiles) will be discussed. Moreover, the analysis of mycotoxins, fungal secondary metabolites, and pesticide residues will be covered. The module will introduce the fundamental analytical chemistry methods, including sample preparation, separation techniques, detection methods, characterization, and quantification of metabolites using state-of-the-art chromatographic and mass spectrometric methods **Objectives**: This module aims to provide students with a comprehensive understanding of chemical analysis techniques employed in agricultural research through a combination of practical experiments and lectures, which will cover the analysis of major chemical groups in plants, fungi, and pesticide residues.	**Work Load 180 h** Attendance time: 70 h Self-study time: 110 h
Exam: Oral exam (30 min, 70%), Student presentation with discussion (ca. 20 min presentation + ca. 10 min discussion, 30% **Examination prerequisites** Regular participation in the block cours	

Language: English	**Coordinator: Dr. Mohammad Alhussein**
Position in academic year: winter semester	**Duration:** one semester
Maximum options of exam repetition: twice	**Recommended semester:**
Maximum number of participants: 16	**Type of Module**: elective