

<b>Georg-August-Universität Göttingen</b> <b>Universität Kassel/Witzenhausen</b> <b>Module M.SIA.P21: Energetic use of agricultural crops and Field forage production</b>	6 C 4 WLH
<b>Learning outcome, core skills:</b> Based on the data presented, students are able to identify and calculate potentials and limits of energy and raw material production from renewable plant resources. Furthermore students are able to classify and to assess the importance of field forage production for organic cropping systems.	<b>Workload:</b> Attendance time: 56 h Self-study time: 124 h
<b>Course: Energetic use of agricultural crops and Field forage production</b> (Lecture, Excursion) <i>Contents:</i> Management of agricultural crops for energetic use. Energy scenario and potentials, emission of greenhouse gases, sources of energy from biomass and waste material, selecting and processing biomass as a fuel. Biogas, fermentation process and plant technology. Gasification, Fischer-Tropsch-Process. Benefits and restrictions by the replacement of fossil fuel-based materials through biomass-based products. The importance of field forage production (ffp) for organic cropping systems; basics of ffp – plant species; integration of ffp in crop rotation systems; environmental impact of ffp, quality aspects; nutrient-dynamics	4 WLH
<b>Examination: Oral examination (approx. 30 minutes)</b> M.SIA.P21.Mp: Energetic use of agricultural crops and Field forage production <b>Examination requirements:</b> Basic and theme specific deepened knowledge on the energetic use of agricultural biomass and on the presented aspects of field forage production.	6 C
<b>Admission requirements:</b> none	<b>Recommended previous knowledge:</b> Basic knowlege in soil and plant sciences, physics and chemistry.
<b>Language:</b> English	<b>Person responsible for module:</b> Prof. Dr. Michael Wachendorf
<b>Course frequency:</b> every 4th semester; Start WiSe 2017/2018; Witzenhausen	<b>Duration:</b> 1 semester[s]
<b>Number of repeat examinations permitted:</b> twice	<b>Recommended semester:</b>
<b>Maximum number of students:</b> 20	
<b>Additional notes and regulations:</b> <b>Literature:</b>	

Literature: Klass, D. 1998: Biomass for Renewable Energy, Fuels, and Chemicals, Academic Press; Sims, R. 2002: The Brilliance of Bioenergy. James & James, London, UK; Rosillo-Calle, F. 2007: The Biomass Assessment Handbook. Earthscan; London, UK