

**Schedule for the Molecular Structure and Dynamics by NMR Spectroscopy in Solution State (FCK-3116) course (spring-2024, 7.5 credits)**

<b>Week 20</b>		
<b>May 14</b>	<b>Lecture-1 (9-11)</b> <i>Basic principles of NMR spectroscopy, the spectrometer</i>	<b>Lecture-2 (13-15)</b> <i>Spectral parameters-1 (chemical shift, couplings)</i>
<b>May 15</b>	<b>Lecture-3 (9-11)</b> <i>Spectral parameters-2 (chemical shift, couplings)</i>	<b>Lecture-4 (13-15)</b> <i>Relaxation, <sup>13</sup>C-NMR, Polarization transfer experiments, Nuclear Overhauser Effect (NOE)</i>
<b>May 16</b>	<b>Seminar-1 (9-11)</b> <i>Problems based on 1D-NMR spectra</i>	<b>Lecture-5 (13-15)</b> <i>2D-NMR spectroscopy, Protocol for routine structure determination</i>
<b>May 17</b>	<b>Lecture-6 (9-11)</b> <i>Dynamic NMR Spectroscopy</i>	-
<b>Week 21-22</b>		
<b>May 21</b>	<b>Seminar-2 (9-11)</b> <i>Problems based on 2D-NMR spectra(1)</i>	<b>Seminar-3 (13-15)</b> <i>Problems based on 2D-NMR spectra(2)</i>
<b>May 22</b>	<b>Lecture-7 (9-11)</b> <i>(Carbohydrates, hemicellulose and lignin)</i>	<b>Seminar-4 (13-15)</b> <i>(Problems on carbohydrates, hemicellulose and lignin)</i>
<b>May 23</b>	<b>NMR-lab demonstration (13-17)</b> <i>(How to setup and run some basic 1- and 2D-NMR experiments)</i>	
<b>May 27</b>	<b>Seminar-5 (9-12)</b> <i>Student presentation of given problems in groups</i>	

**June 10: Deadline to deliver the answers for the home exam!**