

# Course Plan: PHY-765 - Gravitational Lensing (GL)

version: May 15, 2018

Lecture plan subject to change. See [https://kasperschmidt.github.io/teaching/SS18\\_GravLens\\_UP765](https://kasperschmidt.github.io/teaching/SS18_GravLens_UP765) for details.

W	Lecture (Wed.'s 08:15-09:05)	Exercise/Seminar (Wed.'s 09:10-09:55)	Location
1	<u>Slides 01</u> Intro & Early days of GL	<u>Worksheet 01</u> (Literature searches and first lenses)	2.28.2.011
2	<u>Slides 02</u> Light deflection and basic GL geometry	<u>Worksheet 02</u> (Select poster topic for presentation)	2.28.2.011
3	<u>Slides 03</u> The lens equation	<u>Worksheet 03</u>	2.28.2.011
4	<u>Slides 04</u> Multiple images	<u>Worksheet 04</u> (Poster presentations)	2.28.2.011
5	<u>Slides 05</u> Time delays	<u>Worksheet 05</u> ("Journal club" allocation 1)	2.28.2.011
6	<u>Slides 06</u> Magnifying sources	<u>Worksheet 06</u> (Present "journal club" papers 1) (Essay allocation)	2.28.2.011
7	<u>Slides 07</u> Finding gravitational lenses	<u>Worksheet 07</u>	2.28.2.011
8	<u>Slides 08</u> Micro GL	<u>Worksheet 08</u> (Finishing essay)	2.28.2.011
9	<u>Slides 09</u> Searching for extrasolar planets with GL	<u>Worksheet 09</u> (Essay review allocation)	2.28.2.011
10	<u>Slides 10</u> Modeling GL	<u>Worksheet 10</u> ("Journal club" allocation 2) (Essay review feedback)	2.28.2.011
11	No lecture and seminar. Compensated by 5-10 minutes longer days weeks 3-15		N/A
12	<u>Slides 12</u> Weak GL	<u>Worksheet 12</u> (Present "journal club" papers 2)	2.28.2.011
13	<u>Slides 13</u> Lensing the CMB	<u>Worksheet 13</u> (Science presentations w. slides) (Select and start preparing outreach)	2.28.2.011
14	<u>Slides 14</u> The future of GL	<u>Worksheet 14</u> (Finish outreach)	2.28.2.011
15	<u>Slides 15</u> Summary, loose ends and Q&A	<u>Worksheet 15</u> (Outreach presentations)	2.28.2.011

**Potential Examination:**  
45 min. oral examination  
20 min presentation w. topics known in advance + Q&A.