

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

version: May 29, 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.

<b>Week</b> Date	<b>Lecture (Wed.'s 08:15-09:05)</b>	<b>Exercise/Seminar (Wed.'s 09:10-09:55)</b>	<b>Location</b>
<b>1</b> April 11	<u>Slides 01</u> Intro & Early days of GL	<u>Worksheet 01</u> (Literature searches and first lenses)	2.28.2.011
<b>2</b> April 18	<u>Slides 02</u> Light deflection and basic GL geometry	<u>Worksheet 02</u> (Select poster topic for presentation)	2.28.2.011
<b>3</b> April 25	<u>Slides 03</u> The lens equation	<u>Worksheet 03</u>	2.28.2.011
<b>4</b> May 2	<u>Slides 04</u> Multiple images	<u>Worksheet 04</u> (Poster presentations)	2.28.2.011
<b>5</b> May 9	<u>Slides 05</u> Time delays	<u>Worksheet 05</u> ("Journal club" allocation 1)	2.28.2.011
<b>6</b> May 16	<u>Slides 06</u> Magnifying sources	<u>Worksheet 06</u> (Present "journal club" papers 1) (Essay allocation)	2.28.2.011
<b>7</b> May 23	<u>Slides 07</u> Finding (strong) gravitational lenses	<u>Worksheet 07</u>	2.28.2.011
<b>8</b> May 30	<u>Slides 08</u> Microlensing	<u>Worksheet 08</u> ("Journal club" allocation 2)	2.28.2.011
<b>9</b> June 6	<u>Slides 09</u> Searching for extrasolar planets with GL	<u>Worksheet 09</u> (Present "journal club" papers 2)	2.28.2.011
<b>10</b> June 13	<u>Slides 10</u> Modeling GL	<u>Worksheet 10</u> (Essay review allocation)	2.28.2.011
<b>11</b> June 20	No lecture and seminar. Compensated by 5-10 minutes longer days weeks 3-15		N/A
<b>12</b> June 27	<u>Slides 12</u> Weak GL	<u>Worksheet 12</u> (Essay review feedback) (Select topic for 'talk')	2.28.2.011
<b>13</b> July 4	<u>Slides 13</u> Lensing the CMB	<u>Worksheet 13</u> (Science presentations w. slides) (Select and start preparing outreach)	2.28.2.011
<b>14</b> July 11	<u>Slides 14</u> The future of GL	<u>Worksheet 14</u> (Finish outreach)	2.28.2.011
<b>15</b> July 18	<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.