

# String Theory Physics V3500/G8099, Spring 2008

Dan Kabat and Lam Hui

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URL: <http://www.phys.columbia.edu/~kabat/strings/Spring08>

<http://www.astro.columbia.edu/~lhui>.

*Class Meeting Time/Place.* Wednesday 2:00 pm - 4:15 pm at Pupin 831.

*Prerequisites.* You should have taken quantum field theory I or should be taking it concurrently.

*Requirements.* Problem sets.

*Topics covered.* In the first half of the course, we will cover the covariant quantization of the bosonic string, leading up to calculations of simple string scattering amplitudes. The second half consists of advanced topics, and depending on the interests and background of the students, we might split the class in two, one led by Dan and the other by Lam. Possible advanced topics include: superstring, D-branes, dualities, black hole entropy, AdS/CFT.

*Texts.* There is no single textbook that covers the materials at just the right level for this class. (For this reason, attending the lectures is important!) You might nonetheless find the following books useful as references. Most of them are available at the Book Culture on W. 112th Street. Their website is <http://www.bookculture.com>.

Zwiebach, *A First Course in String Theory*.

Green, Schwarz and Witten, *Superstring Theory*, Vol. I and II.

Polchinski, *String Theory*, Vol. I and II.

Kiritsis, *String Theory in a Nutshell*.

Becker, Becker and Schwarz, *String Theory and M-theory*.

Johnson, *D-branes*.