SHEAF THEORY
MATH 8800 SPRING 2017

COURSE:	Math 8800: Topics in Topology
INSTRUCTOR:	Sanjeevi Krishnan
OFFICE HOURS:	TTh 11:00-12:00 Math Tower 754
LECTURES:	MWF 10:20-11:15 JR 139
TEXTS:	material is mainly drawn, in order, from the three texts:

[1] G. Bredon, *Sheaf Theory*

[2] M. Kashiwara and P. Schapira, *Sheaves on Manifolds*

[3] R. Jardine, *Local homotopy theory*

Description. This course is an introduction to sheaf theory, as a general local-to-global tool relevant in pure and applied settings. To begin, the course introduces the classical Abelian theory of sheaves, associated homology and cohomology theories, and their applications in algebraic topology [1]. The course will then delve into microlocal methods and applications in analysis; the main technical tool developed here is the Fourier-Sato transform [2]. Finally, latter weeks of the course will be devoted to local homotopy theory, a generalization of sheaf theory beyond the Abelian setting [3]. All requisite homological algebra and homotopy theory will be developed along the way.

The course involves thrice weekly lectures, biweekly homework sets, and a 30 minute presentation on select topics during the latter week(s) of the semester.

Prerequisites. Some exposure to homotopy theory is helpful, but the course is self-contained for a 2nd year math grad.

Disabilities: Students with disabilities that have been certified by the Office for Disability Services (ODS) will be appropriately accommodated and should inform the instructor as soon as possible of their needs. ODS is located in 150 Pomerene Hall, 1760 Neil Avenue; the number is 292-3307, VRS 429-1334; and the site is `http://ods.osu.edu/`.