

TENTATIVE OUTLINE

Lecture	Date	Day	Topic	References
1	Sept. 25	W	Introduction and kernel density estimation	Sheather (2004); Härdle and Linton (1994), Silverman (1978), Horowitz (2009, Sec. A.1), Notes.
2	Sept. 30	M	Density estimation	Härdle and Linton (1994), Silverman (1978), Notes .
3	Oct. 2	W	Kernel nonparametric regression	Mack and Silverman (1982); Härdle (1990); Härdle and Linton (1994), Horowitz (2009, Sec. A.2), Notes
4	Oct. 7	M	Local polynomial regression	Fan (1992); Fan and Gijbels (1996); Härdle and Linton (1994)
5	Oct. 9	W	Series nonparametric regression	Newey (1997), Li (1987), Horowitz (2009, Sec. A.2.3).
6	14ct. 7	M	Nonparametric quantile regression	Chaudhuri (1991), Härdle and Linton (1994), Yu and Jones (1998), Horowitz (2009, Sec. A.3).
7	Oct. 16	W	Inference in nonparametric regression	Hall and Horowitz (2011); Horowitz and Krishnamurthy (2017)
8	Oct. 21	M	Nonparametric additive models:	Horowitz and Mammen (2004); Horowitz and Lee (2005); Horowitz, Klemelä, and Mammen (2006); Linton and Nielsen (1995); Linton and Härdle (1996),
9	Oct. 23	W	Partially linear models	Härdle, Liang and Gao (2000); Robinson (1988), Horowitz (2009, Ch. 3).
10	Oct. 28	M	Single index models: average derivatives	Powell, Stock and Stoker (1989); Chaudhuri, Doksum, and Samarov (1997); Hristache, Juditsky, and Spokoiny (2001)
11	Oct. 30	W	Single index models: least squares	Ichimura (1993), Horowitz (2009, Ch. 2).
12	Nov. 4	M	No class	
13	Nov. 6	W	No class	
14	Nov. 11	M	Nonparametric IV: Math background	Horowitz (2009; Sec. 5.3; A.2.3); Horowitz (2010a); notes
15	Nov. 13	W	Nonparametric IV: Estimation	Horowitz (2009, Sec. 5.3), Horowitz (2011, 2014); Newey and Powell (2003); Hall and Horowitz (2005); Blundell, Chen, and Kristensen (2007); Horowitz and Lee (2012); Chen and Pouzo (2012).
16	Nov. 18	M	Partial identification in nonparametric IV:	Freyberger and Horowitz (2015)
17	Nov. 20	W	Penalization methods for high-dimensional estimation	Fan, Lv, and Qi (2011); Fan and Li (2001); Fan and Peng (2004); Horowitz (2015); Horowitz and Huang (2013); Wang, Lee, and Leng (2009); Huang, Horowitz, and Wei (2010); Belloni and Chernozhukov (2011).
18	Nov. 25	M	Penalization methods	Friedman, et al. (2007); Efron, et al. (2004)
	Nov. 27	W	No class. Thanksgiving	
19	Dec. 2	M	Support vector machines	Steinwart and Christmann (2008, Ch. 6); Steinwart (2002)
20	Dec. 4	W	Support vector machines	Hastie, Tibshirani, and Friedman (2009, Sec. 12.2.1); Steinwart and Christmann (2008, Ch. 11).