Ent 597 Infectious Disease Dynamics TuTh 1:35PM - 2:50PM

The class format is a series of mixed lectures and computer workshops.
Readings will use my text book “Epidemics: Models and data using R”
https://www.springer.com/gp/book/9783319974866
A pdf version of the book can be downloaded for free from springer-link or the book can be bought from Springer or Amazon:
https://www.amazon.com/Epidemics-Models-Data-using-Use/dp/3319974866/)
The associated epimdr R-package with all data and functions are on CRAN:
https://CRAN.R-project.org/package=epimdr
There is also a GitHub repository with supplementary material on:
https://github.com/objornstad/epimdr

	Topic	Readings
1/7/19	Introduction to class, R, installing packages, Project Tycho, etc	Chapter 1
1/9/19	The SIR model. Integration ODEs	Chapter 2.1-2.5
1/14/19	R0	Chapter 3.1-3.3
1/16/19	Chain binomial	Chapter 3.4-3.5
1/21/19	FoI and Age	Chapter 4.1-4.3
1/23/19	WAIFW & RAS	Chapter 4.5-4.8
1/28/19	Seasonality	Chapter 5.1-5.3
1/30/19	Bifurcation and Pointcare sections	Chapter 5.4-5.6
2/4/19	Time series analysis 1: ACF & Spectra	Chapter 6.1-6.3
2/6/19	Times series 2: Wavelets	Chapter 6.4-6:10
2/11/19	TSIR	Chapter 7.1-7.5
2/13/19	TSIR2	Chapter 7.7
2/18/19	Event-based models	Chapter 8.1
2/20/19	Trajectory matching and Likelihoods 101	Chapter 8.3-8.7
2/25/19	ORV & ShinyApps	Chapter 2.8 & 8.9
2/27/19	Project discussion	
3/4/19	NO CLASS	
3/6/19	NO CLASS	
3/11/19	The Jaccobian & Stability	Chapter 9.1-9.4
3/13/19	Resonant periodicity (?Transfer functions?)	Chapter 9.5-9.7
3/18/19	Spatial Dynamics	Chapter 11.1-11.4
3/20/19	CML models of spatiotemporal spread + Visualization	Chapter 11.5-11.8
3/25/19	Spatial & Spatiotemporal patterns 1	Chapter 13
3/27/19	Spatial & Spatiotemporal patterns 2	Chapter 13
4/1/19	Parasitoid-Host dynamics	Chapter 14.1-14.3
4/3/19	Parasitoid-Host Metapopulations	Chapter 14.5
4/8/19	Project work 1	
4/10/19	Project work 2	
4/15/19	Dynamic Exotica 1	Chapter 10.1-10.4
4/17/19	Stranger still	Chapter 10.5-10.8
4/22/19	TBA	
4/24/19	Project presentations	