



Week 1: Epidemiology, Data, and Statistical Software

		Content
Monday	10:00 – 10:15	Welcome and Introduction
	10:20 – 11:30	Roundtable discussion: the role of biostatistics in advancing medicine and improving health; career as a biostatistician
	11:40:12:00	Overview of USF SIBS: curriculum, extracurricular activities, and overall goals
	12:00 – 2:00	Lunch
	2:00 – 5:00	Student IDs, Campus Tour, Simulation Lab Tour, and Shimberg Library Tour, Housing Orientation
	5:00 – 7:00	Welcome Reception (COPH Atrium)
Tuesday	10:00 – 10:55	Biostatistics, Public Health, and Epidemiology: Perspectives and history Definitions: association and causation, Infectious disease epidemiology, Chronic disease epidemiology: cardiovascular disease and cancer; Current epidemiologic issues in the news
	11:00 – 12:00	History and basics of epidemiology (cont.) Introduction to cohort studies The Framingham Heart Study: history and basic design Framingham; early results and public health implications
	12:00 – 2:00	Lunch
	2:00 – 3:30	Introduction to data analysis software R
	3:35 – 5:00	R: Illustration with Framingham data; population distribution and sampling variation
	7:00 –	Team Activity
Wednesday	10:00 – 11:00	Basic principles of epidemiology (cont.) Bias and confounding, incidence and prevalence
	11:05 – 12:00	Other important epidemiologic studies
	12:00 – 2:00	Lunch
	2:00 – 5:00	Field Trip – Moffitt Cancer Research Center
	7:30 – 8:30 pm	SIBS Team Fitness – REC Center
Thursday	10:00 – 11:00	Case-control studies Principles and examples
	11:05 – 12:00	Epidemiologic studies; Issues and examples; Ecological studies (units in the aggregate) What about cancer clusters?
	12:00 – 2:00	Lunch
	2:00 – 3:30	Introduction to data analysis software SAS
	3:35 – 5:00	SAS: Illustration with Framingham data; population distribution and sampling variation

	7:00 –	Team Activity
Friday	10:00 – 11:00	Summary of epidemiology and the role of biostatistics Speculations on the future of epidemiology
	11:05 – 12:00	Clinical Trials: history, scope, phases, and the U.S. regulatory process Planning and implementation of phase 3 clinical trials: formulating a research question Primary and secondary endpoints, inclusion and exclusion criteria, generalizability
	12:00 – 2:00	Lunch
	2:00 – 5:00	Field Trip – Jaeb Center for Health Research
Sat	10 – 4	Clearwater Beach
Sun	Free Time	

Week 2: Clinical Trials

		Content
Monday	10:00 – 11:00	Is the Evidence for LDL <70 Really Clear? Dissecting evidence that Lead to Guidelines
	11:05 –12:00	Issues in Evaluating “Evidenced-Based” Data
	12:00 – 2:00	Lunch
	2:00 – 5:00	Field Visit: Hillsborough County Health Department
Tuesday	10:00 – 11:00	Clinical Trials: Randomization, research ethics, informed consent, IRBs, sample size Major types of trials: therapeutic and prevention. Examples from the literature
	11:05 – 12:00	Protocol development: blinding, recruitment. Examples The UGDP (first multi-center trial; problems at the start) The LRC-CPPT trial (the first cholesterol lowering trial) Trial monitoring, protocol deviation, compliance, statistical analyses, stopping rules List of selected classical epidemiology and clinical trials topics for student reviews provided Scheduling of presentations (Thurs. and Fri.)
	12:00 – 2:00	Lunch
	2:00 – 3:30	SAS: Association and correlation for continuous data; group comparison and testing hypothesis
	3:35 – 5:00	SAS: Association and correlation for discrete data, RR and OR
	6:30 pm	Volunteer at the Hope Lodge – American Cancer Society
Wednes day	10:00 – 11:00	Other important clinical trials; and controversies (CAST – A major clinical trial reveals an underpublicized tragedy
	11:05 – 12:00	Ethical issues: A biostatistician’s role. A scandal at Harvard, and another at Montreal

		Separate student group meetings on presentations
	12:00 – 2:00	Lunch
	2:00 – 5:00	Field trip to Moffitt/JAEB (shadow a work group)
	7:30 – 8:30 pm	SIBS Team Fitness – REC Center
Thursday	10:00 – 11:00	Student presentations (5): Selected classical clinical trials/epidemiologic studies Discussion Some issues resolved, others arising from them
	11:05 – 12:00	Student presentations (cont.) Summary of clinical trials methodology and related issues Use of surrogates Equivalence trials
	12:00 – 2:00	Lunch
	2:00 – 3:30	R: Association and correlation for continuous data; group comparison and testing hypothesis
	3:40 – 5:00	R: Association and correlation for discrete data, RR and OR
Friday	10:00 – 11:00	Summary and speculation on the future of clinical trials
	11:05 – 12:00	Regression: effect modifier and confounding
	12:00 – 2:00	Lunch
	2:00 – 5:00	Field trip to Moffitt/JAEB (shadow a work group)
Sat	10 – 5	Busch Garden & Adventure Island (students are on their own for these activities)
Sun	Free Time	

Week 3: AIDS Clinical Trials and Modeling

		Content
		Monday: Memorial Day no class
Tuesday	10:00 – 11:00	HIV/AIDS, and HIV epidemic
	11:05 – 12:00	Human behavior and risk factors to HIV/AIDS
	12:00 – 2:00	Lunch
	2:00 – 5:00	Field Trip: VA Patient Safety Center
	6:30 pm	Volunteer at the Hope Lodge
Wednesday	10:00 – 11:00	Pathogenesis of HIV-1 infection, progression
	10:30 – 11:20	HAART regimens
	12:00 – 2:00	Lunch
	2:00 – 5:00	Moffitt/JAEB/Project Team Meeting

	7:30 – 8:30 pm	SIBS Team Fitness – Student REC Center
Thursday	10:00 – 11:00	Biostatistics in AIDS clinical trials and AIDS drug development
	11:05 – 12:00	AIDS clinical trials and datasets & longitudinal data structure
	12:00 – 2:00	Lunch
	2:00 – 5:00	Computer Lab and team work
Friday	10:00 – 11:00	Between patient variation and random effects
	11:05 – 12:00	Linear mixed effects models
	12:00 – 2:00	Lunch – Top of the Palms
	2:00 – 5:00	Moffitt/JAEB/Project Team meeting
Sat	10 – 4:00 pm	Lido Beach/St. Armand’s Circle
Sun	Free Time	

Week 4: Behavioral and Mental Health, and Evidence Based Medicine

		Content
Monday	10:00 – 11:00	Risk factors of mood disorders (e.g., depression and suicide): Demographic characteristics
	11:05 – 12:00	Relative risk; attributable risk; odds ratio; and 2 by 2 tables
	12:00 – 2:00	Lunch
	2:00 – 5:00	
Tuesday	10:00 – 11:00	Pearson’s Chi-square test; Fisher exact test; McNamer test
	11:05 – 12:00	Social interaction and mood disorder
	12:00 – 2:00	Lunch
	2:00 – 5:00	Computer Lab (analysis of couple’s data)
	6:30 pm -	Volunteer at Hope Lodge
Wednesday	10:00 – 11:00	Study of changes in mental health at individual levels
	11:05 – 12:00	Growth curve analysis of college student drinking in freshman year
	12:00 - 2:00	Lunch
	2:00 - 5:00	Moffitt/JAEB/Project Team
	7:30 – 8:30 pm	SIBS Team Fitness
Thursday	10:00 – 11:00	Bias in therapeutic research
	11:00 – 12:00	Principles in systematic review
	12:00 – 2:00	Lunch
	2:00 – 3:00	Meta Analysis

	3:00 – 4:00	Demonstration of software (REVMAN/STATA)
Friday	10:00 – 11:00	logistic regression, effect modifier and interaction
	11:05 – 12:00	logistic regression, effect modifier and interaction
	12:00 – 2:00	Lunch
	2:00-3:00	Graduate studies in public health
	3:00 – 5:00	Moffitt/JAEB/Project Team meeting
Sat	9:30 – 5:00	Tarpon Springs/Island Wind Tours
Sun	Free time	

Week 5: Genomics and Medical Genetics

		Content
Monday	10:00 – 11:00	Introduction to genomic data (biology aspect)
	11:05 – 12:00	Introduction to genomic data (clinical aspect)
	12:00 – 2:00	Lunch
	2:00 – 5:00	Field Trip - USF Pediatric EPI Center
	7:00 -	Work on project report and presentation
Tuesday	10:00 – 11:00	Management of high-dimensional data and data normalization
	11:05 – 12:00	Gene selection and multiple testing
	12:00 – 2:00	Lunch – Bulls Den
	2:00 – 3:00	Introduction to Bioconductor (statistical tools for data management and normalization)
	3:00 – 5:00	Introduction to Bioconductor (statistical tools for gene selection and adjustment for multiple testing)
	6:30 pm	Volunteer at Hope lodge
Wednesday	10:00 – 11:00	Proteomic and pathway analysis
	11:05 – 12:00	Classification and prediction
	12:00 – 2:00	Lunch
	2:00 - 5:00	Moffitt/JAEB/Project Team meeting
	7:30 – 8:30 pm	SIBS Team Fitness – REC Center
Thursday	10:00 – 11:00	Introduction to single nucleotide polymorphisms (SNPs)
	11:00 – 12:00	Statistical methods for SNP data
	12:00 – 2:00	Lunch
	2:00 – 3:30	Computer Lab: Real data analysis for SNP
	3:40 – 5:00	Computer Lab: Introduction to Bioconductor

Friday	10:00 – 11:00	Classification and prediction (continued)
	11:05-12:00	Discussion of homework project
	12:00 – 2:00	Lunch – Bulls Den
	2:00-5:00	Moffitt/JAEB/Project Team meeting
Sat	Free time	
Sun	12:00 – 5:00	Tampa Bay Ray Game

Week 6: Aging Studies and Biomarkers

		Content
Monday	10:00 – 12:00	Lab with R and Biostatistics
	12:30 – 2:00	Lunch
	2:00 – 5:00	Lab with SAS
	7:00 –	Team project
Tuesday	10:00 – 12:00	Lab with R and Biostatistics
	12:30 – 2:00	Lunch
	2:00 – 5:00	Lab with SAS
	7:30 pm	SIBS Team Fitness – REC Center
Wednesday	9: 30 am–12:00	Field Trip: FMQAI
	12:30 – 2:00	Lunch
	2:00 - 5:00	Moffitt/JAEB/Project Team meeting
	7:00 -	Team project (preparation for presentation)
Thursday	10:00 – 11:30	Round Table – II (former and current graduates)
	11:30 – 12:00	Preparation for project
	12:30 – 2:00	Lunch
	2:00 – 5:00	Team project presentation (30 minutes each)
	5:00 -7:00 pm	Closing Ceremony and Farewell Dinner
Friday	10:00 – 12:00	Information Session and Wrap-up
	12:00 – 2:00	Lunch
	2:00 – 5:00	Room clean-up and check out
Sat		Room clean-up and check out