

SIBS Pittsburgh 2015 Program Schedule, Week 1

7/17/15

Goals for Week 1: Become familiar with the philosophical and ethical issues involved in research with human subjects; create and evaluate appropriate study designs used to collect data to address specific questions; and perform exploratory data analysis appropriate for given study designs and hypotheses. This includes identifying hypotheses, understanding strengths and weaknesses of clinical trials, cohort studies, case-control studies and cross-sectional studies. It also includes obtaining point estimates, interval estimates, and hypothesis testing involving means and proportions, and comparing them across study groups. Student also will understand the basic structure of a scientific paper and the CONSORT guidelines for reporting clinical trials. **Note: we have A425 from 9-5 on M, T, Th, F. We have A215 from 9-5 on Wednesdays, and Posvar 1201 from 1:30-4 on M, T, Th most weeks (and 2-4 on selected days marked below).**

Week 1 June 15-19	10-12 am	1:30-3:30 pm	Notes
Monday June 15 2015	Crabtree A425 Introductions **start at 9:30 today** [Sally Morton] Welcome Talk 9:45-10:30 [Stone] Overview of SIBS; SIBS 8 survey [Wilson, Bertolet] Review of Course Syllabus	Posvar 1201 [1:30-4 pm] [Bertolet] Lab 1: Getting Started with BARI and Stata; Download Stata	Arrival on 6/13; move into PA hall from 2-6 pm; get Pitt id at Panther Central; Walking tours of Oakland after move-in Welcome dinner at The Porch at Schenley 7:30 pm
Tuesday June 16 2015	Crabtree A425 [Wilson] Review through Case Studies: Sampling distributions, 2-sample t-test, paired t-test, chi-squared test, McNemar's test	Crabtree A425 [1:30-3:30] [Feingold] Human Subjects Research	
Wednesday June 17 2015	Crabtree A215 Seminar Speakers [Lewis Kuller] Overview of Cardiovascular Research [10-11 am; videotape] [Maria Brooks] Introduction to BARI	Posvar 1201 [1:30-4 pm] [Bertolet] Lab 2: Review of Statistical Concepts	Turn in travel receipts to Clair
Thursday June 18 2015	Crabtree A425 [Wilson] Simple Linear Regression: Straight line models and their parameters; structural and random components; inference about regression parameters; ANOVA table; R^2	Posvar 1201 [1:30-4pm] [Buchanich] Human Subject Protection Certification Lab Turn in Receipt of Policies forms to Sammi	[Stone] Social committee meeting immediately after lab
Friday June 19 2015	Crabtree A425 [Brooks] Experimental and Observational Study Designs	Crabtree A425 [1:00-2:30] [Brooks;Wilson] Journal Club Reading abstracts and manuscripts; BARI and CONSORT statement	[Stone] Saturday, June 20: Bus to Strip District, Point State Park, and Market Square

SIBS Pittsburgh 2015, Week 2

Goals for Week 2: Estimate and interpret a best fitting line. Perform exploratory analysis to evaluate key assumptions and utilize appropriate methods when assumptions are violated. Know how to use and interpret categorical predictors, both as main effects and in interactions. Test hypotheses, obtain confidence intervals, and evaluate the fit of an estimated line. Utilize model building techniques to identify appropriate models. Interpret predictors of interest in the presence of potential moderators.

Week 2 June 22-26	10-12	1:30-3:30	Notes
Monday June 22 2015	Crabtree A425 [Wilson] Regression with One Continuous Covariate Confidence and prediction intervals; assessment of regression assumptions	Posvar 1201 [1:30-4 pm] [Stone, Youk, Feingold, Wahed, Wilson, Kenkre] Project Group Meetings: Descriptions and sign-ups; initial look at project materials	
Tuesday June 23 2015	[Wilson] Multiple Linear Regression Outliers and influence. Indicator variables as predictors. Interactions between indicators and continuous predictors	Posvar 1201 [1:30-4 pm] [Bertolet] Lab 3: A First Look at Regression	
Wednesday June 24 2015	Crabtree A215 Seminar Speakers [Steve Belle] Study of Viral Resistance to Antiviral Therapy of Chronic Hepatitis C [Abdus Wahed] Hepatitis C Viral Kinetics	Crabtree A215 [1:30-3 pm] [Wahed] Journal Club Innovative study designs	
Thursday June 25 2015	Crabtree A425 [Wilson] Model Building	Posvar 1201 [1:30-4 pm] [Bertolet] Lab 4: Multivariable Regression	[Wilson] Civic Light Opera, Man of La Mancha Meet at Benedum Center Box Office, Downtown, 7:45 pm
Friday June 26 2015	Crabtree A425 [Wilson] Model Checking	[1:30-3 pm] [Wilson/Jennifer Fiddner; Stephen Forest] Allegheny County Health Department Downtown Meet in Parran (Desoto St) Lobby at 12:45 pm; bring Pitt id for bus; wear office casual clothing	[Wilson] Gateway Clipper Boat Tour, Sat. 6/27 Meet at Gateway Clipper dock, Station Square, at 1 pm <i>June 27: Jam on Walnut (Walnut Street, Shadyside) 7 pm</i> <i>June 28: Hartwood Acres; Bastard Bearded Irishmen</i>

SIBS Pittsburgh 2015, Week 3

Goals for Week 3: Apply ML estimation to categorical outcome measures (i.e., logistic regression). Perform exploratory data analysis in terms of risk ratios, risk differences and odds ratios. Extend the concepts of model building, effect modification, categorical and continuous covariates, and model evaluation to logistic regression. Identify and control for possible confounding variables. Interpret predictors of interest in the presence of potential confounders and moderators.

Week 3 June 29- July 3	10-12	1:30-3:30	Notes
Monday June 29 2015	Crabtree A425 [Wahed] Measures of Risk and Association for Dichotomous Outcomes (RR, OR, Intro to Logistic Regression)	Posvar 1201 [1:30-4 pm] [Wahed, Brooks, Feingold, Wilson, Kenkre] Project Group Meetings	
Tuesday June 30 2015	Crabtree A425 [Wahed] Logistic Regression	Posvar 1201 [1:30-4 pm] [Bertolet] Lab 5: Tried the Rest? Now Try the Best! Model Building	
Wednesday July 1 2015	Crabtree A215 Seminar Speakers [Mary Marazita] Dental Epidemiology Dental Genetics and the COHRA Study [Maria Brooks] Overview of BARI 2D and WISE	Crabtree A215 (1:30-3) [Brooks, Wilson] Journal Club: Missing Data and BARI 2D Quality of Life analyses	3:30-4:30 pm [Crabtree A215] [Roger Day] Clinical Trial Design: It's Either in the Cards or the Computer Did It
Thursday July 2 2015	Crabtree A425 [Wahed] Confounding and Interaction; Stratification [Feingold] Introduction to Genetics; Hardy-Weinberg Equilibrium Mid-program survey	Posvar 1201 [1:30-4 pm] [Bertolet] Lab 6: Yin or Yang, Life or Death, Yes or No? Binary Outcomes and Logistic Regression	Bowling at Forward Lanes 8-10 pm
Friday July 3 2015	Happy 3rd!!! [no class]	<i>Three Rivers Regatta (Point State Park; July 3-5; 12 pm-10 pm daily)</i> <i>7/5: 12pm-1:30 pm, Anything that Floats Race; Point State Park</i> <i>7/5: Bach, Beethoven and Brunch. Mellon Park; River City Brass Band</i> <i>7/5: Pittsburgh Symphony Orchestra concert at Hartwood Acres 8:15 pm</i>	[Feingold] 4th of July Picnic/ BBQ at Eleanor Feingold's house, 5831 Darlington Rd, Squirrel Hill, at 2 pm [#61 bus on Forbes Ave] <i>7/4: Fireworks downtown at dusk [9:36 pm; view from OC lot parking garage]</i>

SIBS Pittsburgh 2015, Week 4

Goals for Week 4: Extend the regression techniques to survival data. Identify key aspects of survival data and perform exploratory data analysis. Estimate and Interpret hazard ratios. Extend the concepts of model building, effect modification, categorical and continuous covariates, and model assessment and interpretation of Cox regression.

Week 4 July 6– 10	10-12	1:30-3:30	Notes
Monday July 6 2015	Crabtree A425 [Wilson] Introduction to Survival Analysis Features of survival data; Kaplan-Meier estimator	A425 Crabtree 1:30-3 pm [Sally Morton] Job Opportunities and Career Development (<i>videotape</i>)	
Tuesday July 7 2015	Crabtree A425 [Wilson] Introduction to Survival Analysis Cont. Logrank test; examples	Posvar 1201 [1:30-4 pm] [Wahed, Brooks, Feingold, Wilson, Kenkre] Project Group Meetings	
Wednesday July 8 2015	Crabtree A215 Seminar Speakers [Lisa Bodnar] Vitamin D: Pregnancy, Preeclampsia, and the Paparazzi [10-11 am] [Karen Matthews] Getting a Good Night's sleep; Does it Matter for Cardiovascular Disease Risk? [11-noon] Class photo: Wear/bring your SIBS t-shirt, at Pitt Panther after Seminar	Crabtree A215 [1:30-3 pm] [Stone, Brooks] Journal Club: Propensity Score Adjustment and the EDCAP study	Social committee meeting after journal club
Thursday July 9 2015	Crabtree A425 [Brooks] Hazard functions/ratios; Cox regression	Posvar 1201 [1:30-4 pm] [Bertolet] Lab 7: To Be or Not To Be? Survival Analysis Introduction	
Friday July 10 2015	Crabtree A215 Panel: Admission to Graduate School [Ada Youk, Tom Songer, Henry Block, Wahed]	Crabtree A215 [1:30-3:00] Panel: Current Students Victor Talisa, Lauren Balmert, Jenna Carlson, Brian Lynch, Andrea Stewart, Chris Freyder	7/12: [Wilson; Feingold] Ohiopyle white water rafting; leave PA Hall at 10 am 7/12: <i>Bach, Beethoven, and Brunch; Mellon Park at 10 am; Aeolian Winds</i>

SIBS Pittsburgh 2015, Week 5

Goals for Week 5: Apply survival analysis methods learned in the previous lectures to a dataset from a cancer clinical trial, focusing in answering research questions. Apply previously-introduced statistical methods to problems in genetic epidemiology. Consider statistical issues arising from “genomic” applications that have very large-scale data .

Week 5 July 13–17	10-12	1:30-3:30	Notes
Monday July 13 2015	Crabtree A425 [Wahed] Survival Case Study [Maria Brooks] Causal Inference	Posvar 1201 [1:30-4 pm] [Wahed, Brooks, Feingold, Wilson, Kenkre] Project Group Meetings	
Tuesday July 14 2015	Crabtree A425 [Feingold] Methods for Genetic Association Studies	Posvar 1201 [1:30-4 pm] [Bertolet] Lab 8: We’re Still Surviving... Survival Analysis Continued	
Wednesday July 15 2015	Crabtree A215 Seminar Speakers [Buchanich] David Galloway and Supriya Kumar Agent-based Modeling in Public Health	Crabtree A215 1:30-3:00 Applied Statisticians Panel [Jonathan Yabes, Megan Marron, Dan Winger, Sarah Sullivan, John Pleis, Shuguang Huang]	6 pm “Dogs at the Dorm” [Megan Marron and friends] on the green between PA Hall and the Petersen Center
Thursday July 16 2015	Crabtree A425 [Feingold] Race and Ethnicity in Genetic Studies [Feingold] What is "Big Data" and Why is it Different from "Small Data"	Posvar 1201 [1:30-4 pm] [Bertolet] Lab 9: Is it All in the Genes? Genetic Applications	
Friday July 17 2015	Crabtree A425 [Bertolet] What the P-value?!?! Reasons I’m a Bayesian and You Should Be Too! SIBS 8 student survey	[Brooks] RAND [1:30-3] Meet in Parran (Desoto St) Lobby at 1 pm; bring photo id; wear office casual clothing Andy Warhol Museum , 5-10 pm July 17-18: Picklesburgh; Rachel Carson Bridge (downtown)	7/18: [Stone] Nationality Rooms Tour; meet in the Cathedral of Learning, 10:50 am <i>July 18-19: Vintage Grand Prix (Schenley Park)</i> <i>July 19: Hartwood Acres; Spanish Harlem Orchestra (Jazz)</i>

SIBS Pittsburgh 2015, Week 6

Goals for Week 6: Complete the independent projects. Present work to your peers and turn in extended abstracts. Monday and Tues. are to be scheduled by project team, working around the specified focus group assignments from 1:30-3 on both days

Week 6 July 20–23	10-12	1:30-3:30	Notes
Monday July 20 2015	Crabtree A425 Project group meetings; Draft abstracts and presentations due to group leader; practice/revise presentations	Posvar 1201 [1:30-4 pm] Work on project presentations	109 Parran [DeArment] Focus Group 1 (VIRAHEP-C; COHRA) 1:30-3 pm
Tuesday July 21 2015	Crabtree A425 Practice/revise presentations (within teams)	Posvar 1201 [1:30-4 pm] Practice/revise presentations (within teams)	309B Parran [DeArment] Focus Group 2 (BARI 2D; WISE) 1:30-3 pm
Wednesday July 22 2015	Crabtree A215 Student Presentations 10-12 am COHRA	Crabtree A215 Student Presentations 1:30-3:30 VIRAHEP-C	
Thursday July 23 2015	Crabtree A425 Student Presentations 10-12 am BARI 2D	Crabtree A425 Student Presentations 1:30-3:30 WISE Short class meeting after the presentations	[Stone] 7:05 pm-Pirates baseball game vs. Washington Nationals and Zambelli fireworks
Friday July 24 2015	Kennywood Day [Stone]	Final gathering at Marnie Bertolet's house [arrive after 5 pm; dinner at 6 pm]	Depart on Saturday, July 25 Move out of dorm by 1 pm Return room keys!