## **Yale School of Public Health Master of Science in Biostatistics** with a Specialization in Implementation and Prevention Science Methods Curriculum (2020-2021 Matriculation)

\_\_\_\_\_ The M.S. degree requires a total of 15 course units. The M.S in Biostatistics requires the student to complete or acquire an exemption from the following courses. Full time students must carry a minimum of 4 course units each semester. If a course is waived, a substitute course must be identified and approved by student's advisor and BIS Implementation Science specialization director.

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Course	Title	Units	Term Offered	Term Taken	Notes			
MS Required Courses (12 course units)								
BIS 525	Seminar in Biostatistics and Journal Club	0	Fall	1 <sup>st</sup> year	Must take both terms			
BIS 526	Seminar in Biostatistics and Journal Club	0	Spring	1 <sup>st</sup> year	Must take both terms			
BIS 623	Advanced Regression Models [or S&DS 612 Linear Models]	1	Fall	1 <sup>st</sup> year				
BIS 628	Longitudinal and Multilevel Data Analysis	1	Spring	1 <sup>st</sup> or 2 <sup>nd</sup> year				
BIS 630	Applied Survival Analysis [or BIS 643 Theory of Survival Analysis]	1	Spring	1 <sup>st</sup> or 2 <sup>nd</sup> year				
BIS 678	Statistical Practice I	1	Fall	2 <sup>nd</sup> year				
BIS 679	Advanced Statistical Programming in SAS and R	1	Fall	1 <sup>st</sup> or 2 <sup>nd</sup> year				
BIS 681	Statistical Practice II *	1	Spring	2 <sup>nd</sup> yea	Master's Thesis preferred see note below			
BIS TBD	Advanced Methods in Implementation and Prevention Science	1	Fall	2 <sup>nd</sup> year				
EMD 533	Implementation Science	1	Fall	2 <sup>nd</sup> year				
EPH 508	Foundations of Epidemiology and Public Health	1	Fall	1 <sup>st</sup> year				
EPH 608	Frontiers of Public Health **	1	Fall and Spring	1 <sup>st</sup> year	Offered both terms – only need to take 1 term			
EPH 600	Research Ethics and Responsibilities	0	Fall	1 <sup>st</sup> year				
S&DS 541	Probability Theory [or S&DS 551 Stochastic Process]	1	Fall	1 <sup>st</sup> year	S&DS 600 and S&DS 551 offered in Spring			
S&DS 542	Theory of Statistics [or S&DS 610 Statistical Inference]	1	Spring	1 <sup>st</sup> year	S&DS 610 offered in Fall			
BIS 695	Summer Internship in Biostatistical Research	0	Summer	1 <sup>st</sup> year	Register in Spring for Summer			
Electives (at least 3 required from the list below)								
	Statistical Mothods for Causal Informed	1	Fall					
	Advanced Tanias in Causal Inference	1	Fdll					
	Advanced Topics in Causal Interence	1						
613 530	At least two of the follow	uina:	1 dii	<u> </u>				
A reast two of the following: ^ indicates highly recommended for implementation science specialization								
HPM 570	Cost-effectiveness Analysis and Decision Making^	1	Fall					
HPM 611	Policy Modeling^	1	Fall					
SBS 574	Developing a Health Promotion and Disease Prevention Intervention <sup>^</sup>	1	Fall					
SBS541	Community Health Program Evaluation <sup>^</sup>	1	Spring					
SBS580	Qualitative Research Methods in Public Health <sup>^</sup>	1	Spring					
CDE 516.	Principles of Epidemiology II	1	Spring					
CDE534	Applied Analytic Methods in Epidemiology	1	Spring					
EMD 538	Quantitative Methods for Infection Disease Epidemiology	1	Fall					
HPM 586	Advanced Health Economics	1	Fall					
HPM 583	Microeconomics for Health Policy and Management	1	Spring					
SBS 676	Questionnaire Development	1	Spring					
S&DS 565	Applied Data Mining and Machine Learning	1	Both					

\* Masters thesis strongly recommended in place of BIS 681 and one elective.

\*\* Students entering the program with an MPH or relevant graduate degree may be exempt from this requirement.

Other Courses						
Professional Skills Series	0	Fall and Spring	1 <sup>st</sup> year	Required to graduate		
Master's Thesis Research Students choosing this option must present their research in a public seminar to graduate	2	Fall and Spring	2 <sup>nd</sup> year	Strongly recommended for BIS Implementation Science Specialization		

Updated: 4/3/2020

More on electives: Implementation and prevention science is an inter-disciplinary field. The more broadly you are trained, the more effective you will be as an independent statistical researcher as well as a collaborator.