

## PROGRAM OVERVIEW 2018-19: MAS in Clinical Research

Required Course Categories	Course #	Units	Faculty	SUMMER	FALL	WINTER	SPRING
<b>Core Courses</b> <i>All 9 courses are required. No Substitutions.</i>	<i>see below</i>	<b>18</b>	<i>see below</i>				
Epidemiology I	CLRE-251	2	Happy Araneta, PhD, MPH	<b>X</b>		<b>X</b>	
Epidemiology II	CLRE-257	2	Happy Araneta, PhD, MPH		<b>X</b>		<b>X</b>
Biostatistics I	CLRE-253	2	Florin Vaida, PhD	<b>X</b>		<b>X</b>	
Biostatistics II	CLRE-254	2	Florin Vaida, PhD		<b>X</b>		<b>X</b>
Patient-Oriented Research I	CLRE-250	2	J. Allen McCutchan, MD, MSc	<b>X</b>		<b>X</b>	
Patient-Oriented Research II	CLRE-256	2	J. Allen McCutchan, MD, MSc		<b>X</b>		<b>X</b>
Scientific Communication Skills	CLRE-259	2	Hemal Patel, PhD Cristian Achim, MD, PhD	<b>X</b>		<b>X</b>	
Health Services Research	CLRE-252	2	TBA	<b>X</b>		<b>X</b>	
Data Management/Informatics	CLRE-255	2	Michael Hogarth, MD		<b>X</b>		<b>X</b>
<b>Independent Study Project</b> <i>All 3 courses are required. No Substitutions</i>	<i>see below</i>	<b>6</b>					
ISP Seminar Series A	CLRE-295A	2	Saima Aslam, MD, MS Raphael Cuomo, PhD		<b>A</b>		
ISP Seminar Series B	CLRE-295B	2	Saima Aslam, MD, MS Raphael Cuomo, PhD			<b>B</b>	
Independent Study Project (ISP)-2 Units	CLRE-297	2	ISP Advisory Committee	<b>ISP</b>	<b>ISP</b>	<b>ISP</b>	<b>ISP</b>
<b>Professional Development Seminar</b> <i>Choose 1 topic below. No Substitutions.</i>	<i>see below</i>	<b>2</b>	<i>see below</i>				
1) Group Coaching	CLRE-258 *	2	Anne Liljenstrand, PhD	<b>X</b>			
2) Research Budgeting & Billing		2	Jennifer Ford, MBA		<b>X</b>		
3) Personal Development Skills		2	Anne Liljenstrand, PhD			<b>X</b>	
4) Project Management		2	Andrew Sarkin, PhD				<b>X</b>
<b>Experiential Learning in Clinical Research</b> <i>Choose 2 courses below. No Substitutions.</i>	<i>see below</i>	<b>4</b>	<i>see below</i>				
1) Exper Learning in ClinRes: Applied Topics in Sci Comm	CLRE-270**	2	Timothy Mackey, PhD, MAS	<b>X</b>		<b>X</b>	
2) Qualitative Research	CLRE-232***	2	Samantha Hurst, PhD		<b>X</b>		
3) Applied Translational Research (prereq CLRE-236 )	CLRE-238***	2	Regent Laporte, DVM, MSc, PhD		<b>X</b>		<b>X</b>
<b>Sub Total Required Course Units:</b>		<b>30</b>					
<b>+ Advanced Stats Electives</b> (see crse listing page 2):		<b>4</b>					
<b>+ General Electives</b> (see crse listing page 2):		<b>6</b>					
<b>Total Required Units for MAS Degree:</b>		<b>40</b>					
* Note 1: While CLRE-258 is required 1 time for 2 units, it may be taken up to 3 additional times (6 units) as a General Elective in Category 3, Clinical Research Leadership & Management.	** Note 2: CLRE-270 may be taken up to 2 times to satisfy core course requirement but may also be counted as a General Elective when taken a 3rd or 4th time.			*** Note 3: When taken to satisfy core requirement in Experiential Learning, CLRE-238 and CLRE-232 may not be double counted as a General Elective.			

<b>Advanced Statistics Elective Courses: Minimum of 4 units is required.</b> <i>(Courses may not be double counted toward any other requirements.)</i>				SUMMER	FALL	WINTER	SPRING
Clinical Decision Analysis	CLRE-264	2	James Murphy, MD, MS		X		
Analyzing Medical Data Using "R" (Bio I pre-req)	CLRE-262	2	Florin Vaida, PhD/Anya Umlauf, MS		X		
Advanced Biostatistical Methods Using "R" (CLRE 262 pre-req)	CLRE-267	2	Florin Vaida, PhD/Anya Umlauf, MS			X	
Longitudinal Data Analysis (Bio I-II pre-reqs)	CLRE-263	2	Florin Vaida, PhD/Anya Umlauf, MS				X
Advanced Regression Methods (Bio II pre-req)	CLRE-265	2	Florin Vaida, PhD/Anya Umlauf, MS	X			
Bioinformatics Applications to Human Disease	MED-263	4	Lucia Ohno-Machado, MD, PhD			X	
Principles of Biomedical Informatics	MED-264	4	Lucia Ohno-Machado, MD, PhD		X		
Statistical Concepts for Biomedical Research	MED-268	4	Lucia Ohno-Machado, MD, PhD Michael Walker, PhD		X		
<b>General Electives - Minimum of 6 units is required from 1 or more groups.</b> <i>(General Elective Courses may not be double counted toward Experiential or Advanced Stats Elective requirements.)</i>				SUMMER	FALL	WINTER	SPRING
<b>Group 1: Translational Research</b>							
Translational Research Fundamentals	CLRE-236	2	Regent Laporte, DVM, MSc, PhD	X		X	
Applied Translational Research (CLRE-236 pre-req or dept. approval)	CLRE-238	2	Regent Laporte, DVM, MSc, PhD		X		X
Translational Regenerative Medicine	CLRE-237	2	Sheldon Morris, MD, MPH			X	
Molecular and Cellular Basis for Disease	MED-224	3	Nazneen Dewji, PhD				X
<b>Group 2: Biostatistics/ Data Analysis/ Biomedical Informatics</b>							
<i>NOTE: Any of the courses offered under the Advanced Stats Elective course group above may be applied to General Electives/Group 2 after 4 units of Advanced Stats courses requirements are met. Courses may not be double counted toward both Advanced Statistics AND General Elective requirements. See course schedule above under Advanced Stats Elective Courses.</i>							
Intro. to Biomedical Natural Language Processing	MED-277	4	Chun-Nan Hsu, PhD				X
Current Trends in Biomedical Informatics	MED-262	1	Jejo Kolla, MD		X	X	X
Modeling Clinical Data/Knowledge for Computation	MED-267	2	TBD		X		
Clinical Decision Support Systems at Point of Care	MED-269	4	James Killeen, MD/Amy Sitapati, MD			X	
<b>Group 3: Clinical Research Leadership &amp; Management</b>							
Behavioral Science Research	CLRE-268	2	Colin Depp, PhD	X			
Qualitative Research	CLRE-232	2	Samantha Hurst, PhD		X		
CER/Comparative Effectiveness Research	CLRE-266	2	Siddharth Singh, MD				X
Occupational and Environmental Health	FPM-246	2	Ruth Heifetz, MD, MPH		X		
<b>Group 4: Global Health Research</b>							
Emerging and Re-emerging Infectious Diseases	FPM/MED-287	2 or 4	TBD		X		
Cultural Perceptions about Health/Disease	FPM-270	4	Jamila Stockman, PhD		X		
				Updated 12/19/18		Subject to change.	