Stanford Immunology Curriculum

Track 1: Molecular Cellular and Translational Immunology (MCTI)

	Fall	Winter	Spring	Summer
Year 1	• Immunology Startup (1 week, held prior to beginning of quarter) • Asilomar Scientific Conference • Bios 200 Foundations • IMM 305 Journal Club (optional)	• IMM 201: Advanced Immunology I • IMM 305 Journal Club	• IMM 202: Advanced Immunology II • IMM 305: Journal Club	• Qualifying Examination Part I: Rotation Presentations (mid-June) • IMM 203: Advanced Immunology III
	At least 3 lab rotations IMM 311: Seminar Series Med 255: Responsible Conduct			
	Choose thesis lab by the end of Y1			
Year 2	• Asilomar Scientific Conference • Qualifying Examination Process Part II: General Orals and Research Proposal Thesis Defense (December).	• Bio 141: Biostatistics		
	IMM 305 Journal Club IMM 311: 50% participation. Choose one of 3 core electives by year 2 (** See Page 3 for details) TA at least one Immunology course			
	Advance to PhD Candidacy by end of Y2			
Year 3 +	• Asilomar Scientific Conference: present 1 oral and 1 poster by graduation		• IMM 258: Ethics, Science, and Society refresher every 3 years	
	IMM 305 Journal Club in year 3 IMM 311: 50% participation in year 3 Finish elective specializations by year 3 (** See Page 3 for details) TA second Immunology course Meet annually with Ph.D. thesis committee, year 3; meet bi-annually Years 4 and beyond Submit first author manuscript Petition to defend to Chair → Thesis defense → Submit dissertation			

Stanford Immunology Curriculum

Track 2: Computational & Systems Immunology (CSI)

	Fall	Winter	Spring	Summer
Year 1	• Immunology Startup (1 week, held prior to beginning of quarter) • Asilomar Scientific Conference • Bios 200 Foundations • CS 106A: Programming Methodology • IMM 305 Journal Club (optional)	• IMM 201: Advanced Immunology I • IMM 206: Introduction to Applied Tools in CSI • IMM 305 Journal Club	• IMM 202: Advanced Immunology II • IMM 305: Journal Club • IMM 311: Seminar Series	• Qualifying Examination Part I: Rotation Presentations (mid-June) • IMM 203: Advanced Immunology III (optional) • IMM 310: CSI Seminars • CS 161: Design & Analysis of Algorithms • CS 109: Introduction to Probability
	At least 3 lab rotations IMM 311: Seminar Series Med 255: Responsible Conduct **Choose thesis lab by the end of Y1**			
Year 2	• Asilomar Scientific Conference • Qualifying Examination Process Part II: General Orals and Research Proposal Thesis Defense (December). • BIOMEDIN 214: Rep Algorithms	• Bio 141: Biostatistics	• IMM 207: Essential Methods in CSI	• IMM 310: CSI Seminars (50% Attendance)
	IMM 305 Journal Club IMM 311: 50% participation. Choose one of 3 core electives by year 2 (** See Page 3 for details) TA at least one Immunology course **Advance to PhD Candidacy by end of Y2**			
Year 3 +	• Asilomar Scientific Conference: present 1 oral and 1 poster by graduation		• IMM 258: Ethics, Science, and Society refresher every 3 years	
	IMM 305 Journal Club in year 3 IMM 311: 50% participation in year 3 Finish core electives & elective specializations by year 3 (** See Page 3 for details) TA second Immunology course Meet annually with Ph.D. thesis committee, year 3; meet bi-annually Years 4 and beyond Submit first author manuscript Petition to defend to Chair → Thesis defense → Submit dissertation			

Stanford Immunology Curriculum

List of Core & Elective Courses

<table>
<tr><th></th><th>MCTI</th><th>CSI</th></tr>
<tr><td rowspan="2">Core</td><td colspan="2">BIOS 200: Foundations in Experimental Biology
IMMUNOL 201: Advanced Immunology I
IMMUNOL 202: Advanced Immunology II
IMMUNOL 305: Immunology Journal Club (3 years)
IMMUNOL 311: Seminar in Immunology (3 years)
BIO 141: Biostatistics
IMMUNOL 290: Teaching in Immunology (2 classes)
MED 255: The Responsible Conduct of Research</td></tr>
<tr><td>IMMUNOL 203: Advanced Immunology III
BIO 141: Biostatistics

Choose ONE of the following:
• MI 210: Advanced Pathogenesis of Bacteria, Viruses, and Eukaryotic Parasites
• BIO 214: Advanced Cell Biology
• IMMUNOL 206: Introduction to Applied Computational Tools in Immunology</td><td>CS 106A: Programming Methodology
CS 109: Introduction to Probability for Computer Scientists
CS 161: Design and Analysis of Algorithms
IMMUNOL 206: Introduction to Applied Computational Tools in Immunology
IMMUNOL 207: Essential Methods in Computational and Systems Immunology
IMMUNOL 310: Seminars in Computational and Systems Immunology
BIO 141: Biostatistics
BIOE 214: Representations and Algorithms for Computational Molecular Biology</td></tr>
<tr><td>Electives</td><td>Choose ONE of the following:
• IMMUNOL 204: Innate Immunology
• IMMUNOL 205: Immunology in Health and Disease
• IMMUNOL 206: Introduction to Applied Computational Tools in Immunology
• IMMUNOL 275: Tumor Immunology
• CBIO 241: Molecular, Cellular, and Genetic Basis of Cancer
• CSB 210: Cell Signaling
• DBIO 210: Developmental Biology
• SBIO 241: Biological Macromolecules</td><td>Choose TWO of the following:
• BIOMEDIN 212: Introduction to Biomedical Informatics Research Methodology
• BIOMED 260: Computational Methods for Biomedical Image Analysis and Interpretation
• BIOMEDIN 262: Computational Genomics
• BIOMEDIN 374: Algorithms in Biology
• CME 206: Introduction to Numerical Methods for Engineering
• CME 263: Introduction to Linear Dynamical System
• CME 309: Randomized Algorithms and Probabilistic Analysis
• CME 334: Advanced Methods in Numerical Optimization
• CME 364A: Convex Optimization I
• CME 372: Applied Fourier Analysis and Elements of Modern Signal Processing
• EE 278: Introduction to Statistical Signal Processing
• EE 376A: Information Theory
• STATS 202: Data Mining and Analysis
• STATS 217: Introduction to Stochastic Processes</td></tr>
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