

PhD in Biomedical Informatics – Fall 2020

Term (Session)	Course	Credits	Title
Fall (Required 1st Term)	BMI 601	3	Fundamentals of Health Informatics (BMI Core Course)
Fall (Required 1st Term)	BMI 502	3	Foundations BMI Methods I (BMI Core Course)
Fall	BMI 515	3	Applied Biostatistics in Medicine and Informatics (BMI Core Course)
Fall	BMI 570	1	BMI Symposium (BMI Core Course)
Spring (Required 2nd Term)	BMI 505	3	Foundations of BMI Methods II (BMI Core Course)
Spring	BMI 504	3	Introduction to Clinical Environments (BMI Core Course)
Spring	Elective	3	BMI Graduate Level Elective Course
Spring	BMI 570	1	BMI Symposium (BMI Core Course)
Fall	BMI 540	3	Problem Solving in BMI (BMI Core Course)
Fall	Elective	3	BMI Graduate Level Elective Course
Fall	Elective	3	BMI Graduate Level Elective Course
Spring	Elective	3	BMI Graduate Level Elective Course
Spring	Elective	3	BMI Graduate Level Elective Course
Spring	Elective	3	Elective - Pre-Approved List in <i>Appendix I</i>
Comprehensive Exam			
Summer	BMI 792	3	Research
Fall	BMI 560	1	Teaching Biomedical Informatics (BMI Core Course)
Fall	Elective	3	Elective - Pre-Approved List in <i>Appendix I</i>
Fall	Elective	3	Elective - Pre-Approved List in <i>Appendix I</i>
Fall	BMI 792	3	Research
Spring	BMI 560	1	Teaching Biomedical Informatics (BMI Core Course)
Spring	BMI 792	3	Research
Spring	BMI 792	3	Research
Spring	Elective	2	Elective - Pre-Approved List in <i>Appendix I</i>
Summer	BMI 792	1	Research
Fall	BMI 792	5	Research
Fall	Elective	3	Elective - Pre-Approved List in <i>Appendix I</i>
Fall	Elective	3	Elective - Pre-Approved List in <i>Appendix I</i>
Spring	BMI 799	12	Dissertation
		84	Total Credits

Other ASU and BMI Requirements:

- Deficiency Courses: Students must complete their deficiency course(s) in the allotted timeframe, if applicable – deficiency coursework is indicated on the student’s admission offer letter.
- Students must maintain a 3.0 GPA (in all 3 areas – graduate, iPOS, and cumulative GPA’s)
- You must receive a grade of B or better in all BMI core-courses
- Students must be enrolled each Fall/Spring term to maintain registration
- Grades of D or E are not allowed to be used on a graduate iPOS (plan of study)

Biomedical Informatics

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Appendix I: BMI Elective Courses

BMI 507 Introduction to Digital Image Processing & Analysis	BMI 598 NLP Methods for Biomedical Text Mining
BMI 515 Applied Biostatistics in Medicine and Informatics	BMI 598 Imaging in Diagnostics
BMI 517 Biostatistics w/Computational Applications	BMI 598 Population Health Management and Analytics
BMI 550 Translational Bioinformatics	BMI 598 Telemedicine
BMI 555 Stat Learning for Data Mining	BMI 603 Health Informatics Database
BMI 591 Image Analytics and Informatics	BMI 608 Project Management for Interdisciplinary Teams
BMI 598 Advanced Bioinformatics	BMI 613 Workflow Analysis and Redesign
BMI 598 Knowledge Management and Engineering	BMI 615 Human Factors Eng Biomed App
	BMI 616 Clinical Decision Support

BMI Pre-Approved Outside Elective Courses

APM 504 Applied Probability and Stochastic Processes	Fundamentals of Stat. Learning
APM 506 Computational Methods	CSE 571 Artificial Intelligence
APM 525 High-Performance Computing	CSE 572 Data Mining
APM 531 Mathematical Neuroscience I	CSE 573 Semantic Web Mining
APM 533 Mathematical Population Biology	CSE 575 Statistical Machine Learning
APM 534 Mathematical Population Bio 2	*CSE 576 Topics/Natural Language Proc
APM 535 Mathematical Models in Medicine	*CSE 591 Topic: Data Visualization
APM 598 Topic: Math Methods for Complex Adaptive Systems	CSE 591 Topic: Machine Learning
BIO 517 (SEM) Uncertainty & Decision Making	CSE 598 Topic: Database Management
BIO 545 Populations Evolution Genetics	*CSE 598 Topic: Information Retrieval, Mining, and Integration
BIO 546 Principles of Human Genetics	*CSE 691 (SEM) Topic: Logical & Distributional Semantics of Natural Lang
BIO 552 Developmental Genetics	*CSE 691 (SEM) Topic: Advanced Topics on Social Media Analysis
BIO 564 Cellular Physiology & Signalng	DCI 691 (SEM) Topic: Seminar on Writing Research
BIO 591 (SEM) Topic: Sociogenomics	DCI 791 (SEM) Topic: Scholarly Writing
BIO 591 (SEM) Topic: Grant Writing	DCI 791 (SEM) Topic: Proposal Writing - Seminar
BIO 591 (SEM) Topic: Evolutionary Medicine	DCI 791 (SEM) Topic: Schlrly Practices Smnr: Proposal Writing
BIO 598 Topic: Non-coding RNA	EVO 598 Topic: Software Carpentry
BIO 598 Topic: Functional Biogeography	EVO 598 Software carpentry
BIO 598 Topic: Genomic Analysis	GIS 598 Topic: Location and analysis modeling
BIO 598 The RNA World	GIS 603 Spatial Statistics/Modeling
BIO 598 Topic: Evolutionary biology of parasites and pathogens	HCR 561 Responsible Conduct of Research
BIO 614 Biometry	IEE 505 Information Systems Engineering
BIO 691 (SEM) Topic: Genetics and the Law	IEE 547 Human Factors Engineering
BMD 511 Health Economics, Policy and Payment Models	IEE 572 Design of Experiments
CSE 510 Database Mgmt Sys Implementn	LIN 514 Syntax
CSE 515 Multimedia and Web Databases	STP 530 Applied Regression analysis
CSE 535 Mobile Computing	STP 533 Applied Multivariate Analysis
CSE 545 Software Security	STP 598 Topic: Computational Statistics
CSE 551 Foundations of Algorithms	STP 598 Topic: Mixed Models
CSE 561 Modeling and Simulation Theory and Application	STP 598 Topic: Bayesian Statistics
CSE 564 Software Design	TWC 514 Visualizing Data & Information
CSE 565 Software Verif/Validation/Test	TWC 544 User Experience
CSE 566 Software Proj/Process/Qual CSE 569	* Requires Advisor Review/Approva

