

Appendix B - Sample Sequences

We start with the sample sequence for Semesters 1-4. These can be the same which for all specializations. Please note that this sequence of courses satisfies the requirements of LAS and can accommodate many other Associate degree program.

SAMPLE SEQUENCE Semester 1-4	Course Code	Requirement	<i>Credits</i>	Total
Calculus I	MAT 1475	MQR	4	15
English Composition I	ENG 1101	Required Core	3	
Physics I	PHY 1441	LPS	5	
Flexible Core WCGI course	Any WCGI course	WCGI	3	
Problem Solving with Computer Programming	CST 1101		3	15
Calculus II	MAT 1575	Add.Flex Core	4	
Physics II	PHYS 1442/1442L	SW	5	
English Composition II	ENG 1121	Required Core	3	
Programming Fundamentals	CST 1201		3	15-16
Flexible Core IS course	Any IS course	IS	3	
Liberal Arts Elective	Any College Option course	LibArt	3-4	
Flexible Core USED course	Any USED course	USED	3	
Elective Course	Any Course		3-4	
Flexible Core CE course	Any CE course	CE	3	14-15
Public Speaking	COM 1330	Public Speaking	3	
Modern Physics	PHYS 2443 ID	ID	4	
Liberal Arts Elective	Any College Option course	LibArt	3-4	

We now present sequences for Semesters 5-8 for the three specializations.

Please note the availability of a free elective course in almost every semester of the program. Please also note that while included for simplicity in the Semester VIII, the PHYS 4200 internship class is usually taken by the students during a Summer semester.

ASTROPHYSICS			
SAMPLE SEQUENCE Semester 5-8	Course Code	<i>Credits</i>	Total
Introduction to Quantum Mechanics	PHYS 2607	3	13-14
Linear Algebra	MAT 2580	3	
Introduction to Research	PHYS 2601	4	
Elective course	Any Course	3-4	
Introduction to Astrophysics	PHYS 2700	4	14-15
Calculus III	MAT 2675	4	
Elective PHYS course	Any PHYS Course*	3-4	
Elective course	Any Course	3-4	
Classical Mechanics	PHYS 3100	4	14-15
Machine Learning for Physics and Astronomy	PHYS 3600	3	
Introduction to Cosmology	PHYS 3700	4	
Elective course	Any Course	3-4	
Electricity and Magnetism	PHYS 3200	4	17-18 (13-14)
Computational Methods	PHYS 4100	4	
Computational Methods Lab	PHYS 4150	2	
Elective course	Any Course	3-4	
Internship.Real Research Experience	PHYS 4200	4**	
* Any Non-Physics Electives are allowed with permission from the Program Coordinators			
** While included in the last semester in this table, it is understood that the PHYS 4200 Internship course is usually recommended for a Summer semester			

QUANTUM TECH			
SAMPLE SEQUENCE Semester 5-8	Course Code	<i>Credits</i>	Total
Introduction to Quantum Mechanics	PHYS 2607	3	14-15
Linear Algebra	MAT 2580	3	
General Chemistry I	CHEM 1110	4	
The Semiconductor World: From Coulomb to Compiler	PHYS 1050	1	
Elective course	Any Course	3-4	
Introduction to Research	PHYS 2601	4	13-14
General Chemistry II	CHEM 1210	4	
Principles of Experimental Design I	PHYS 2501	2	
Elective course	Any Course	3-4	
Classical Mechanics	PHYS 3100	4	13-15
Principles of Experimental Design II	PHYS 2502	2	
Calculus III	MAT 2675	4	
Elective course	Any Course	3-4	
Electricity and Magnetism	PHYS 3200	4	18 (14)
Computational Methods	PHYS 4100	4	
Computational Methods Lab	PHYS 4150	2	
Semiconductor Physics and Devices	PHYS 4500	4	
Internship.Real Research Experience**	PHYS 4200	4**	

** While included in the last semester in this table, it is understood that the PHYS 4200 Internship course is usually recommended for a Summer semester

COMPUTATIONAL PHYSICS			
SAMPLE SEQUENCE Semester 5-8	Course Code	Credits	Total
Introduction to Quantum Mechanics	PHYS 2607	3	13-14
Linear Algebra	MAT 2580	3	
Introduction to Research	PHYS 2601	4	
Elective course	Any Course	3-4	
Calculus III	MAT 2675	4	14-15
Introduction to Quantum Computing	PHYS 2609	4	
Elective PHYS course	Any PHYS Course*	3-4	
Elective course	Any Course	3-4	
Classical Mechanics	PHYS 3100	4	13-15
Machine Learning for Physics and Astronomy	PHYS 3600	3	
Elective PHYS course	Any PHYS Course*	3-4	
Elective course	Any Course	3-4	
Electricity and Magnetism	PHYS 3200	4	17-18 (13-14)
Computational Methods	PHYS 4100	4	
Computational Methods Lab	PHYS 4150	2	
Elective course	Any Course	3-4	
Internship/Real Research Experience**	PHYS 4200	4**	
* Any Non-Physics Electives are allowed with permission from the Program Coordinators			
** While included in the last semester in this table, it is understood that the PHYS 4200 Internship course is usually recommended for a Summer semester			