Analytical/Instrumental Chemistry Major (BA/BS) Check List

Note: ***This document is <u>not</u> legally binding: it is intended only to give guidance in planning one's program.***

<u>AN APPROVED MINOR (RECOMMENDED: PHYSICS OR PHYSICAL SCIENCE) IS REQUIRED FOR THIS MAJOR</u>

CHEMISTRY UNITS REQUIRED (44 UNITS)

Course #	**Course Title**	**Unit**	**Prerequisites**
CHEM 102	Introductory Chemistry I	5	MATH 141 (C or better) or waiver thereof.
CHEM 104	Introductory Chemistry II	5	CHEM 102
CHEM 184	Introduction to Chemistry	1	
CHEM 251	Organic Chemistry I	3	CHEM 104
CHEM 252	Organic Chemistry II	3	CHEM 251
CHEM 261	Organic Chemistry Lab I	2	Co-requisite: CHEM 251
CHEM 260	Introduction to Inorgan Chem	4	Chem 104
CHEM 352	Quantitative Analysis	5	CHEM 104
CHEM 370	Physical Chemistry I	3	CHEM 352; Co-requisites: MATH 254 and PHYS 141/181
CHEM 371	Physical Chemistry II	3	CHEM 352; Co-requisites: MATH 254 and PHYS 141/181
CHEM 470	Physical Chemistry Lab I	1	CHEM 370 (co-requisite)
CHEM 454	Biochemistry I: Biochem of Macromolecules	3	BIOL 120 or 141 (C or better) and CHEM 251
CHEM 480	Instrumental Analysis	4	CHEM 252 and 352
CHEM 481	Instrumental Design and Maintenance	1	CHEM 480

CHEM 484	Chemistry Seminar	1	Consent of Instructor

MATHEMATICS UNITS REQUIRED
(UNIQUE REQUIREMENTS, 10 UNITS)

Course #	**Course Title**	**Units**	**Prerequisites**
MATH 253	Calculus and Analytic Geometry I	5	MATH 152
MATH 254	Calculus and Analytic Geometry II	5	MATH 253

PHYSICS UNITS REQUIRED
(UNIQUE REQUIREMENTS, 10 UNITS)

Course #	**Course Title**	**Units**	**Prerequisites**
PHYSICS 140	Principles of Physics I	5	Coreg. MATH 152
PHYSICS 141	Principles of Physics II	5	Physics 140
	OR		
PHYSICS 180	Physics for Scientists and Engineers I	5	Coreg. MATH 253
PHYSICS 181	Physics for Scientists and Engineers II	5	Physics 180 or consent of instructor. Coreq: MATH 254

PHYSICS UNITS REQUIRED
(UNIQUE REQUIREMENTS, 2 UNITS)

Course #	**Course Title**	**Units**	**Prerequisites**
PHYSICS 221	Intermediate Laboratory	2	Physics 141 or 181 and MATH 254

PHYSICS UNITS REQUIRED
(UNIQUE REQUIREMENTS, 4 or 5 UNITS)

Course #	**Course Title**	**Units**	**Prerequisites**
PHYSICS 330	Analog and Digital Electronics	3	Physics 221 and MATH 361
PHYSICS 331	Analog and Digital Electronics Lab	1	Coreq. Physics 330
	OR		
PHYSICS 303	Microprocessor Lab	2	Physics 181 (or 141) and COMPSCI 171 or COMPSCI 172 or COMPSCI 174. Coreq. Physics 496 or consent of instructor
PHYSICS 496	Special Studies	3	Physics major or minor, Junior or Senior standing and consent of instructor

PHYSICS UNITS REQUIRED
(UNIQUE REQUIREMENTS, 2 or 4 UNITS)

Course #	**Course Title**	**Units**	**Prerequisites**
PHYSICS 360	Optics	2	Physics 324 or consent of instructor
	OR		
PHYSICS 344	Modern Physics	4	Physics 181 (or 141) and MATH 254