

BALDWIN-WALLACE COLLEGE

Berea, Ohio 44017

PHYSICAL SCIENCE - ADOLESCENT YOUNG ADULT EDUCATION GRADES 7-12

BALDWIN-WALLACE COLLEGE REQUIREMENTS: 70.5-74 semester hours

<u>COURSE</u>	<u>CREDIT HOURS</u>	<u>COURSE TITLE</u>
REQUIRED COURSES IN PHYSICS: (23 semester hours)		
PHY 103	3	Frontiers of Physics
PHY 131 & PHY 151L	4	General Physics I
PHY 151L	1	Introduction to Physics Lab I
OR		
PHY 145L	5	Applied College Physics I
PHY 132 & PHY 152L	4	General Physics II
PHY 152L	1	Introduction to Physics Lab II
OR		
PHY 146L	5	Applied College Physics II
PHY 233	4	Modern Physics (Prerequisite required)
PHY 311	3	Electronic Instrumentation (Prerequisite required)
PHY 312	3	Advanced Laboratory (Prerequisite required)
REQUIRED COURSES IN CHEMISTRY: (21.5 semester hours)		
CHM 111	4	General Chemistry I
CHM 111L	.5	General Chemistry Laboratory (Prerequisite required)
CHM 112	4	General Chemistry II (Prerequisite required)
CHM 112L	.5	General Chemistry Laboratory (Prerequisite required)
CHM 221	3	Quantitative Analysis (Prerequisite required)
CHM 221L	1	Quantitative Analysis Laboratory (Prerequisite required)
CHM 251	4	Organic Chemistry I (Prerequisite required)
CHM 251L	.5	Organic Chemistry Laboratory (Prerequisite required)
CHM 311	3	Biochemistry (Prerequisite required)
CHM 311L	1	Biochemistry Laboratory (Prerequisite required)
REQUIRED COURSES IN MATHEMATICS: (8 semester hours)		
MTH 141	4	Calculus I (Prerequisite required)
MTH 142	4	Calculus II (Prerequisite required)
ANY TWO (2) OF THE FOLLOWING COURSES MUST BE SUCCESSFULLY COMPLETED: (6-7.5 semester hrs.)		
CHM 321	3	Instrumental Analysis
CHM 321L	1	Instrumental Analysis Laboratory
CHM 331	3	Physical Chemistry
CHM 331L	.5	Physical Chemistry Laboratory
PHY 362	3	Physics of Waves (Prerequisite required)
PHY 371	4	Thermal Physics (Prerequisite required)
PHY 372	3	Quantum Physics (Prerequisite required)
CHOOSE AT LEAST FOUR (4) COURSES IN FOUR (4) DEPARTMENTS. THESE MUST INCLUDE 1 ASTRONOMY COURSE, 1 GEOLOGY COURSE, AND 1 BIOLOGY COURSE. (12-14 semester hours) FROM:		
AST 170L <u>WITH</u>	1	Observational Astronomy Lab
AST 111	3	Astronomy of the Stars
OR		
AST 121	3	Astronomy of the Solar System
AST 131L	4	Exploratory Astronomy (Lab included)
BIO 111	3	Field Biology
BIO 121	4	Principles of Biology I
BIO 122	4	Principles of Biology II
CHM 200	3	Science and Society
CHM 200	3	Environmental Chemistry
CHM 200	3	Energy
CHM 200	3	Women in Science
GEO 104	4	Geology of Natural Parks
GEO 111	4	The Dynamic Earth
GEO 121	4	Physical Geography
GEO 200	3	Planets, Moons & Meteorites
PHY 102	3	Topics in Physics
THE FOLLOWING COURSES ARE <u>RECOMMENDED</u> BUT NOT REQUIRED: (7 semester hours)		
MTH 243	4	Calculus III (Prerequisite required)
MTH 212	3	Differential Equations (Prerequisite required)

EDU 356	3	Special Methods: Science (Prerequisites: EDU 340 and EDU 348)

Prescribed courses as listed for this license represent B-W "Model Program" for license. Two common exceptions to this model program include: (1) If a student seeks a college major in Physics, then additional course work may be required. (2) Substitutions in the model program may be approved only by the Chairman, Division of Education, Baldwin-Wallace College.