

Bluegrass Community and Technical College

Focus Areas for the Associate in Science

Revised 9/6/2019

Description

Students have two options in earning an AA, AS, or AFA degree. They may decide on a degree in general pre-baccalaureate studies, which allows a wide choice of courses and an opportunity to explore many subject areas, or they may decide on a Focus Area, which allows them to explore one field of study in more depth. A Focus Area is not a major or a minor but is a concentration of related courses. If students plan to transfer after earning their AA, AS, or AFA degrees, they may fulfill a number of their pre-major requirements by choosing a Focus Area. Obtaining a Focus Area, however, does not mean that a student has fulfilled all pre-major requirements for a four-year degree at the University of Kentucky or elsewhere.

Allied Health

The Allied Health focus area exposes students to pre-requisite courses in the health careers and prepares students pursuing a baccalaureate degree in an allied health or health science degree.

Choose at least nine hours from:

ANA 209	Principles of Human Anatomy	(3)
BIO 137	Human Anatomy and Physiology I	(4)
BIO 139	Human Anatomy and Physiology II	(4)
BIO 150	Principles of Biology I	(3)
BIO 151	Principles of Biology Laboratory I	(2)
BIO 152	Principles of Biology II	(3)
BIO 153	Principles of Biology Laboratory II	(2)
BIO 209	Introductory Microbiology Laboratory	(2)
BIO 225	Medical Microbiology	(4)
BIO 226	Principles of Microbiology	(3)
CHE 170	General College Chemistry I	(4)
CHE 175	General College Chemistry Laboratory I	(1)
CHE 180	General College Chemistry II	(4)
CHE 185	General College Chemistry Laboratory II	(1)
PGY 206	Elementary Physiology	(3)
PHY 201	College Physics I	(4)
PHY 202	College Physics I Laboratory	(1)
PHY 203	College Physics II	(4)
PHY 204	College Physics II Laboratory	(1)

Choose an additional 12 hours from any of the sciences above or the following:

CLA 131	Medical Terminology from Greek and Latin	(3)
MAT 170	Brief Calculus with Applications	(3)
MAT 175	Calculus I	(5)
PSY 223	Developmental Psychology	(3)
SOC 101	Introduction to Sociology	(3)
STA 200	Statistics: A Force in Human Judgment	(3)
STA 291	Statistical Methods and Motivations	(3)

Note: Students may not use both ANA 209/PGY 206 and BIO 137/BIO 139 to complete the focus area.

Chemistry

The classes listed in the Chemistry Focus Area are standard pre-major/major requirements for Chemistry at most four year institutions.

CHE 170	General College Chemistry I	4
CHE 175	General College Chemistry Laboratory I	1
CHE 180	General College Chemistry II	4
CHE185	General College Chemistry Laboratory II	1
CHE 270	Organic Chemistry I	3

Choose one from the following:

CHE 275	Organic Chemistry Laboratory I	(2)
CHE 280	Organic Chemistry II	(3)
CHE 285	Organic Chemistry Laboratory II	(2)
MAT 175	Calculus I	(5)
MAT 185	Calculus II	(5)
PHY 231	General University Physics I	(4)
AND		
PHY 241	General University Physics I Laboratory	(1)
PHY 232	General University Physics II	(4)
AND		
PHY 242	General University Physics II Laboratory	(1)

Computer Science

The focus area in Computer Science prepares students for entry-level programming positions as well as transfer to local four-year computer science programs.

CHE 170	General University Chemistry I	4
PHY 231	General University Physics I	4
PHY 241	General University Physics I Laboratory	1
MAT 175	Calculus I	5
MAT 185	Calculus II	5
CS115	Introduction to Computer Programming	3
CS 215	Introduction to Program Design, Abstraction, and Problem Solving	4
CS 216	Introduction to Software Engineering	3
CS 275	Discrete Mathematics	4

Informatics

Informatics is a broad academic field of study in the design, development, storage, retrieval, analysis, and management of information. Its roots lie in computer science and database administration while its applications are multidisciplinary. A few of its specializations include bioinformatics, biochemistry informatics, business informatics, environmental informatics, geoinformatics, health informatics, legal informatics, music informatics, and

social informatics. The focus area will prepare students to transfer to a BS/BA program to continue studies in informatics or one of its specializations.

CIT 105	Introduction to Computers	3
OR		
Special Exam for Credit		(3)
CIT 120	Computational Thinking	3
OR		
CIT 111	Computer Hardware or Software	(4)
INF 120	Elementary Programming	3
OR		
CIT 149	Java I	(3)
INF 282	Introduction to Databases	3
OR		
CIT 170	Database Design Fundamentals	(3)
INF 260	Object Oriented Programming I	3
OR		
CIT 249	Java II	(3)
INF 286	Introduction to Web Development	3
OR		
CIT 150	Internet Technologies	(3)
OR		
CIT 155	Web Page Development	(3)
Elective course		3

Natural Science

The Natural Science focus area exposes students to several topics in the natural sciences and prepares students pursuing a baccalaureate degree.

Choose 21 credit hours from :

BIO 150	Principles of Biology I	(3)
BIO 151	Principles of Biology Laboratory I	2
BIO 152	Principles of Biology II	3
BIO 153	Principles of Biology Laboratory II	2
CHE 170	General College Chemistry I	4
CHE 175	General College Chemistry Laboratory I	1
CHE 180	General College Chemistry II	4
CHE 185	General College Chemistry Laboratory II	1
CHE 270	Organic Chemistry I	3
CHE 280	Organic Chemistry II	3
MAT 170	Brief Calculus with Applications	3
MAT 175	Calculus I	5
PHY 201	College Physics I	4
PHY 202	College Physics I Laboratory	1
PHY 203	College Physics II	4
PHY 204	College Physics II Laboratory	1
PHY 231	General University Physics I	4
PHY 232	General University Physics II	4
PHY 241	General University Physics I Laboratory	1
PHY 242	General University Physics II Laboratory	1

Pre-Engineering

The Pre-Engineering focus area prepares students for transfer into engineering programs at The University of Kentucky and other area universities.

MAT 175	Calculus I	5
MAT 185	Calculus II	5
MAT 275	Calculus III	4
PHY 231	General University Physics I	4
PHY 241	General University Physics I Laboratory	1
CHE 170	General University Chemistry I	4
OR		
PHY 232	General University Physics II	4

Video Game Design

The proposed focus area will prepare students for an entry-level position in the local video game design industry, and will also allow students to earn an AA/AS for transfer to a four-year college offering a Bachelor's degree in video game design, such as EKU or KSU.

IMD 124	Intro to Game Development	3
IMD 221	Computer Graphics	3
IMD 222	3D Modeling	3
IMD 223	3D Animation	3
IMD 273	Game Production	3