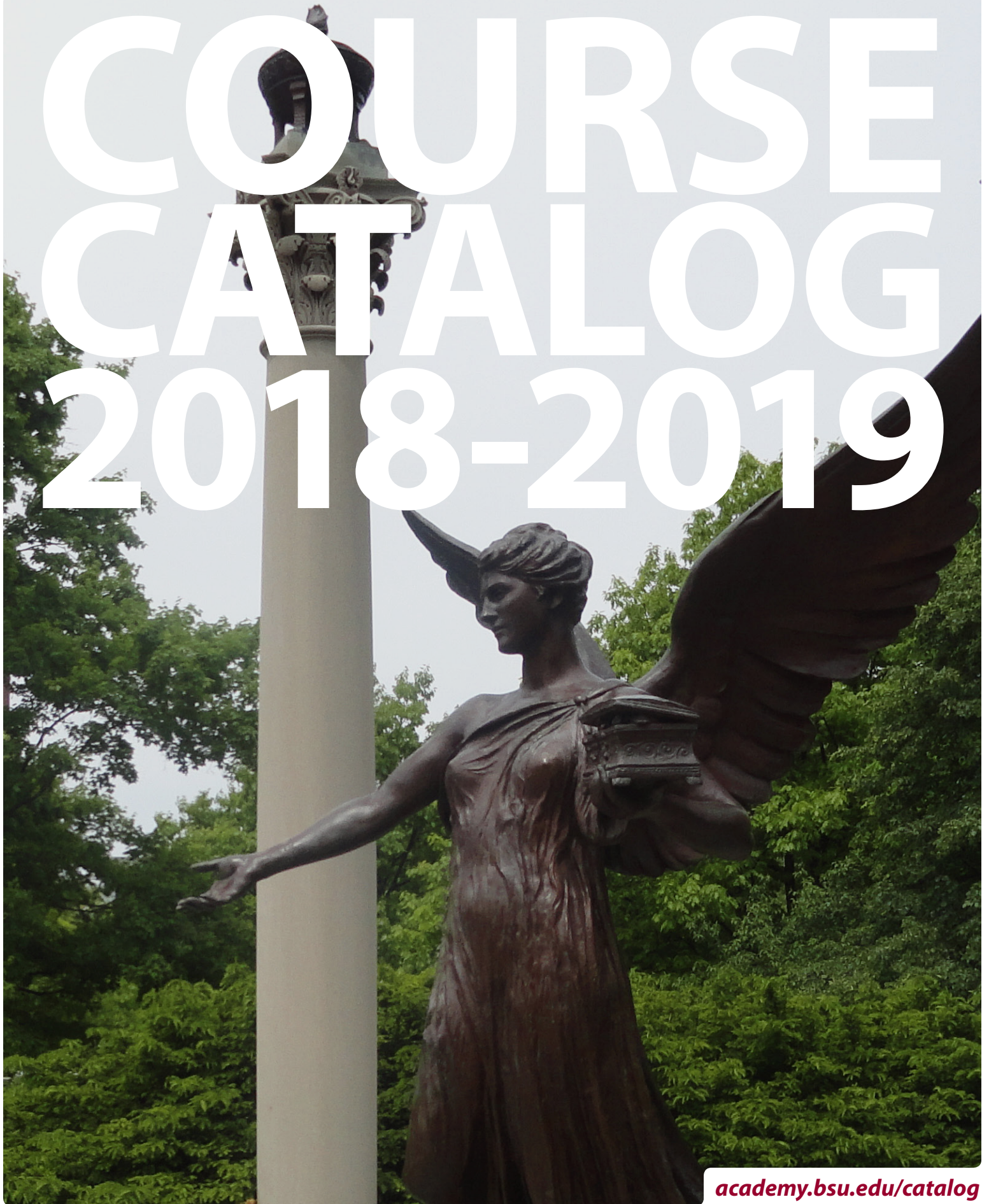




THE  
**INDIANA ACADEMY**  
FOR SCIENCE, MATHEMATICS, AND HUMANITIES

# COURSE CATALOG 2018-2019



[academy.bsu.edu/catalog](https://academy.bsu.edu/catalog)

# TABLE OF CONTENTS

Introduction . . . . .	i
Definitions . . . . .	i
Dual Credit Courses . . . . .	ii
What is an AP Class? . . . . .	iv
Ball State University Course Substitution . . . . .	iv
Audit Credit to BSU Credit . . . . .	iv
Graduation Requirements . . . . .	v
<b>Humanities</b>	
English . . . . .	1
Social Studies . . . . .	7
World Languages . . . . .	11
<b>Mathematics</b> . . . . .	16
<b>Computer Science</b> . . . . .	20
<b>Science</b>	
Physics . . . . .	22
Chemistry . . . . .	25
Life Science . . . . .	27
Earth and Space Science . . . . .	30
<b>Academy/Burris</b>	
Fine Arts . . . . .	31
Publications . . . . .	33
Music . . . . .	34
<b>Interdisciplinary Studies</b>	
Business . . . . .	35
Colloquium . . . . .	35
Research . . . . .	36
<b>Individual Study</b>	
Internships . . . . .	37
Directed Study . . . . .	37

## Introduction

Whenever minimum enrollment requirements are satisfied and Academy resources allow, the courses described in this catalog are offered. Information contained in course descriptions is subject to change in accord with the procedures for curriculum revision outlined in **Curriculum and Academic Policies and Procedures** of the Indiana Academy for Science, Mathematics, and Humanities.

## Definitions

**Course Title Codes** Refers to the type of course:

- CL** College Level – Uses a college textbook and syllabus
- CP** College Prep – Uses a high school textbook and syllabus
- DC** Dual Credit – available for Ball State University credit (see page ii)
- XC** Exploratory Course – studies a specific topic and is a mixture of high school and college levels

**Prerequisite** refers to a course or demonstrated knowledge that is required prior to course enrollment.

**Co-requisite** refers to courses that are required concurrently.

**Credit** refers to the successful completion of a one-semester course that meets as a class a minimum of one hundred and fifty minutes per week.

**Permission of Instructor** refers to enrollment after review of transcripts and other relevant information by the course instructor.

**Placement** refers to enrollment after review of transcripts and other relevant information by the Director of Academic Affairs, the appropriate academic division chair, or their designees.

## DUAL CREDIT COURSES

Dual Credit Courses (designated as “DC” in the course catalog descriptions) are Indiana Academy courses taught by Academy instructors and have been recognized as equivalent to a Ball State University course. Students who enroll for dual credit may request a transcript from Ball State University which can be transferred to any college or university that accepts BSU credits. Students are responsible for the special dual credit tuition fee. The tuition fee for dual credit varies according to the course. In the list on page iii, all courses **underlined** will cost \$25 per college credit hour. These courses are on the state core library list for automatic transfer between Indiana Universities and colleges. The tuition for all courses listed ***in italics*** is \$250.00 per course. All tuition fees are waived for students who are on free and reduced lunch. Applications, directions for enrollment, and other information on dual credit courses can be obtained from the Guidance Office.

### Important items to keep in mind

1. Fall semester enrollment will take place during the first two weeks of the semester. Enrollment for spring dual credit courses will take place in late January. **You must enroll during these times if you wish to receive dual credit.**
2. Dual credit courses indicated with an asterisk ( \* ) are the second course in a two semester sequence. Students must enroll in the fall in the first course of the sequence in order to qualify for dual credit in the spring semester. Students must enroll and pay another tuition fee for the second course in the sequence at the start of the spring semester.
3. Courses labeled “enroll in spring only” have two semesters of the Academy classes to equal one semester of the BSU class. Enrollment is done in the second semester of the Academy class. Final dual credit grade is an average between the two semesters of the Academy class.
4. Actual courses available for dual credit are subject to change. Check with the Guidance Office for the most current list of courses.

## DUAL CREDIT COURSES (Continued)

Academy course number and title	Ball State University course
<i>ENG05111S2</i>	<i>Linguistics</i> 3 cr. hrs. in ENG 320 (spring only)
<a href="#">FRN1A/1B</a>	<a href="#">French I</a> 4 cr. hrs. per semester in FR 101 and 102*
<a href="#">FRN2A/2B</a>	<a href="#">French II</a> 3 cr. hrs. in FR 201 (enroll spring only)
<a href="#">FRN3A/3B</a>	<a href="#">French III</a> 3 cr. hrs. in FR 202 (enroll spring only)
<a href="#">GER1A/1B</a>	<a href="#">German I</a> 4 cr. hrs. per semester in GER 101 and 102*
<a href="#">GER2A/2B</a>	<a href="#">German II</a> 3 cr. hrs. per semester in GER 201 and 202*
<a href="#">JAP1A/1B</a>	<a href="#">Japanese I</a> 4 cr. hrs. in JP 101 (enroll spring only)
<a href="#">JAP2A/2B</a>	<a href="#">Japanese II</a> 4 cr. hrs. in JP 102 (enroll spring only)
<a href="#">LAT1A/1B</a>	<a href="#">Latin I</a> 3 cr. hrs. per semester in LAT 101 and 102*
<a href="#">LAT2A/2B</a>	<a href="#">Latin II</a> 3 cr. hrs. per semester in LAT 201 and 202*
<a href="#">SPN1A/1B</a>	<a href="#">Spanish I</a> 4 cr. hrs. in SPN 102 (enroll spring only)
<a href="#">SPN2A/2B</a>	<a href="#">Spanish II</a> 3 cr. hrs. in SPN 201 (enroll spring only)
<a href="#">SPN3A/3B</a>	<a href="#">Spanish III</a> 3 cr. hrs. in SPN 202 (enroll spring only)
<a href="#">SOC201</a>	<a href="#">American History I</a> 3 cr. hrs. in HIST 201: US 1492-1876
<a href="#">SOC202</a>	<a href="#">American History II</a> 3 cr. hrs. in HIST 202: US 1877-Present
<i>SOC05130</i>	<i>West in the World</i> 3 cr. hrs. in HIST 150 (spring only)
<i>MAT04005</i>	<i>Calculus</i> 3 cr. hrs. in MATH 132 (fall only)
<a href="#">MAT04123/04124</a>	<a href="#">AP Calculus AB</a> 4 cr. hrs. in MATH 165 (enroll spring only)
<a href="#">MAT04133/04134</a>	<a href="#">AP Calculus BC</a> 4 cr. hrs. per semester in MATH 165 and 166*
<i>MAT04514</i>	<i>Statistics</i> 3 cr. hrs. in MATH 181 (available fall & spring)
<a href="#">MAT04515</a>	<a href="#">Quantitative Reasoning</a> 3 cr. hrs. in MATH 125 (available fall & spring)
<i>MAT04825</i>	<i>AP Statistics</i> 3 cr. hrs. in MATH 181 (spring only)
<i>MAT04832</i>	<i>Linear Algebra</i> 4 cr. hrs. in MATH 217 (fall only)
<i>MAT04833</i>	<i>Multivariable Calculus</i> 4 cr. hrs. in MATH 267 (fall only)
<i>MAT04834</i>	<i>Differential Equations</i> 3 cr. hrs. in MATH 374 (spring only)
<i>CMP04202</i>	<i>Visual Programming</i> 4 cr. hrs. in CS 120 (fall only)
<i>CMP04501/4502</i>	<i>AP Computer Sci. A 1, 2</i> 4 cr. hrs. in CS 121 (enroll spring only)
<i>BUS0110</i>	<i>Personal Finance</i> 3 cr. hrs. in FIN 110 (spring only)
<i>SCI03201/03202</i>	<i>General Chemistry 1, 2</i> 3 cr. hrs. in CHEM 100 (enroll in spring only)
<i>SCI04204/04205</i>	<i>AP Chemistry</i> 4 cr. hrs. per semester in CHEM 111 and 112*
<i>SCI04209</i>	<i>Intro to Organic &amp; Biochem.</i> 5 cr. hrs. in CHEM 101 (spring only)
<i>SCI04301/04302</i>	<i>AP Biology</i> 4 cr. hrs. per semester in BIO 111 and 112*
<i>SCI04304</i>	<i>Microbiology</i> 5 cr. hrs. in BIO 113 (spring only)
<i>SCI04328</i>	<i>AP Environmental Science</i> 3 cr. hrs. in NREM 101 (enroll in spring only)
<a href="#">SCI03101/03102</a>	<a href="#">General Physics 1, 2</a> 3 cr. hrs. in PHYC 100 (enroll in spring only)
<i>SCI03111/03112</i>	<i>AP Physics I</i> 4 cr. hrs. in PHYC 110 (enroll in spring only)
<i>SCI04102/04103</i>	<i>AP Physics C</i> 5 cr. hrs. per semester in PHYC 120 and 122*
<i>SCI04406</i>	<i>The Solar System</i> 3 cr. hrs. in ASTR 100 (fall only)
<i>SCI04407</i>	<i>Galactic Astronomy</i> 3 cr. hrs. in ASTR 120 (spring only)

\* Enrollment in the first course is a prerequisite for enrollment in the second course.

## What is an AP Class?

A number of Indiana Academy classes have been approved through an audit process by The College Board to use the label AP or Advanced Placement. These courses are designated as “AP” in the course catalog descriptions. The Academy offers all available AP Science and AP Math courses. Further information about the AP Program can be obtained at <http://apcentral.collegeboard.com>.

## AP and College Credit

Starting with the 2011 Advanced Placement (AP) exams, students who earn a score of 3 or higher shall receive college credit toward their degree if they attend any Indiana public institution of higher education; this includes all two- and four-year schools and any accompanying satellites.

## Ball State University Courses

### Substitutions

Students are expected to complete their graduation requirements by enrollment in Academy classes whenever possible. When an Academy class for a graduation requirement cannot be scheduled due to a conflict, the student may request permission to substitute the credit by auditing an appropriate Ball State University course. All BSU course substitutions must be approved through the Guidance Office and the Director of Academic Affairs. The audit fee will be covered by the Academy.

### Electives

Indiana Academy students are also provided an opportunity to apply for enrollment in elective Ball State University classes. The student may enroll for college credit at the full BSU tuition rate, or they may audit the course for high school credit. The student is responsible for all fees and course expenses for BSU elective courses. See the Student Handbook for more detailed information about taking Ball State University courses.

Questions concerning enrolling in Ball State University classes or Audit Fee procedures should be directed to the Guidance Office.

### Credit

The following conversion rates will be used for the purpose of converting college level credit to Indiana Academy credit:

University Credit Hours	Academy Credits
1	0.50
2	0.75
3 (3 days/week)	1.00
3 (4 days/week)	1.25
4	1.25
5	1.50

# GRADUATION REQUIREMENTS

## Graduating Classes of 2019, 2020, and 2021 (26.5 Academy Credits)

### High School Substitutions

Courses that are not taught at the Indiana Academy which would have traditionally been taken by students as 9<sup>th</sup> or 10<sup>th</sup> graders may be taken during summer school or through other arrangements. These classes include but are not limited to: PE, Health, Fine Arts, Geometry, Algebra II, and World Civilization/World History. Approval for these substitutions should be arranged with the Academy Guidance Office.

#### Science: 6 Credits Required

2 credits in each two-semester sequence of General Biology, General Chemistry, and General Physics, or equivalent college preparatory courses as determined by the Science Division Chair.

4 credits in Laboratory Sciences must be from the Academy.

A student may petition to have a previous laboratory science course accepted to replace a laboratory science course that would otherwise be taken here.

#### Math: 8 Credits Required

2 credits in Algebra 1, 2 credits in Geometry, 2 credits in Algebra 2, and 2 credits in courses beyond Algebra 2.

3 credits must be from the Academy.

At least one credit in mathematics must be earned each year.

#### English: 8 Credits Required

3 credits must be from the Academy:

1 credit in American Literature (**Fall Semester of Junior Year**),

1 credit in World Literature (**Spring Semester of Junior Year**), and

1 elective credit from the Academy.

#### Social Studies: 6 Credits Required

3 credits must be from the Academy:

Must have Foundations of the American Experience.

Must have American History 1 and American History 2 at the Academy or AP US History with a score of 4 or 5 on the AP US History exam before enrolling.

Students who satisfy this requirement with AP US History must also take US Government and Economics.

#### World Languages: 6 or 8 Credits Required

**If taking 1 language**, a student must successfully complete 6 credits in that language. If courses in that language are taken at the Academy to meet this requirement, the credits must include the successful completion of the Academy Intermediate 2b course.

**If taking 2 languages**, a student must earn a total of 8 credits with 4 credits in each language. For languages taken at the Academy to meet this requirement, the credits must include the successful completion of the Academy Intermediate 2b course.

#### Fine Arts: 2 Credits Required

Can be obtained from home high school or Academy.

## GRADUATION REQUIREMENTS (Continued)

**Health: 1 Credit Required**

Can be obtained from home high school or Academy (BSU course).

**Phys. Ed.: 2 Credits Required**

Can be obtained from home high school or Academy (BSU course).

**Computing: 0.5 Credit Required**

Must take CMP03301 at the Academy or test out.

**Colloquium: 1 Credit Required**

.5 credit Junior year (taken Fall Semester).

.5 credit Senior year (taken Spring Semester).

**May Term: 1 Credit Required**

.5 credit Junior year.

.5 credit Senior year.

Must be obtained while attending the Academy.

### Additional Requirements for the Academic Honors Diploma

Earn a grade of a "C" or better in courses that will count toward the diploma.

Complete one of the following:

- Earn 4 credits in 2 or more AP courses and take corresponding AP exams.
- Earn a composite score of 1250 or higher on the SAT with a minimum score of 560 on the math and a 590 on the evidence-based reading and writing section.
- Earn an ACT composite score of 26 or higher and complete writing section.
- Earn 6 verifiable transcribed college credits in dual credit courses.
- Earn a combination of 2 credits of AP courses and corresponding AP exams **AND** 3 verifiable transcribed college credits through dual credit courses.



# HUMANITIES: ENGLISH

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

## REQUIRED COURSES

Every junior must take **American Literature** the fall semester and **World Literature** the spring semester or take **English-Human Struggles** their first three semesters. Through the integrated Human Struggles courses students earn both their required English and Social Studies credits.

### ENG03101 – American Literature (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Fall

The American Literature course begins with literature of the New World and ends with contemporary period literature. There is an emphasis on critical thinking, close reading, and the development of writing skills. The course is organized by theme, by genre, or by literary and historical period, depending on the approach of the teacher. Students will have a wide variety of writing assignments, opportunities for oral participation, and other activities connecting literature, history, and culture.

### ENG04221 – World Literature (CL)

**Prerequisite:** ENG03101  
**Credit:** 1 credit  
**Offered:** Spring

This course focuses on the study of poetry, drama, and prose produced by authors of various nationalities of the Western and Eastern worlds from the ancient period to the present. Students explore literary movements and intellectual trends with a continuing emphasis on critical thinking, close reading, and the development of writing skills. They also develop essays and projects that call upon the processes of analysis, synthesis, and evaluation and have opportunities for oral participation. The course is organized by theme, by genre, or by literary and historical period depending on the approach of the teacher.

## ELECTIVES

### Dramatic Literature

#### ENG05110 – Shakespearean Comedies (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Fall

In this course, students study Shakespeare's joyous comedies, dark comedies, farces, and romances. Through Shakespeare's comedies, students explore drama as an oral medium, understand the importance of Shakespeare in the history of drama, and have opportunities to view and portray scenes from the plays being studied. Students engage in creative, analytical, and expository writing throughout the course. Plays such as *As You Like It*, *Twelfth Night*, *Much Ado About Nothing*, *Taming of the Shrew*, *Merchant of Venice*, *A Midsummer Night's Dream*, *Measure for Measure*, *A Winter's Tale*, and *The Tempest* are among the plays that might be selected for reading.

#### ENG05112 – Shakespearean Tragedies and Histories (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

In this course, students study a selection of Shakespeare's tragic and historical plays with attention to plot and character representation as well as to historical contexts and a range of critical theories. Through Shakespeare's tragedies and histories, students explore drama as an oral medium, come to understand the importance of Shakespeare in the history of drama, and have opportunities to view and portray scenes from the plays being studied. Students engage in creative, analytical, and expository writing throughout the course. There is a rich variety of plays to choose from, including *Hamlet*, *MacBeth*, *Othello*, *King Lear*, *Julius Caesar*, *King Henry IV*, and *King Henry V*. The instructor can choose from a variety of didactic possibilities, including close reading, videos, creative projects, and class dramatic productions.

## HUMANITIES: ENGLISH (Continued)

### ENG05139 – Introduction to Theater and Dramatic Literature (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Fall

Introduction to Theater and Dramatic Literature begins with a study of ancient Greek Theater with particular stress on the nature of tragedy and the principles for tragedy (and drama) proposed by Aristotle in *The Poetics*. The plays *Agamemnon*, *Antigone*, and *The Trojan Women* represent the three major Greek playwrights. The course continues with Roman Theater, primarily the development of Farce and Senecan tragedy. *Everyman* is a major work of the Medieval Period, followed by *Doctor Faustus* as the representative work of the Renaissance. Moliere (French comedy) and English Restoration Comedy are considered. The course then takes a short leap to consider the Norwegian playwright Henrik Ibsen, the Russian playwright Anton Chekov, and two British writers, G.B Shaw and Oscar Wilde. The American triumvirate of Eugene O'Neill, Arthur Miller, and Tennessee Williams are represented, followed by works of Samuel Beckett, Athol Fugard, August Wilson, and David Mamet. In addition to studying the plays as literature, the course includes an emphasis on staging and performance practices of each era and the cultures that helped inspire the plays. Although not an acting or a production course, some acting and some attention to stage design (setting and costumes) are included.

### ELECTIVES

#### Themes in Literature

### ENG05101 – Women's Literature (CL)

**Prerequisite:** None  
**Credit:** 1 cr.  
**Offered:** Spring

Students in this course study literature by and about women beginning with ancient works (Vedic Hymns, Sumerian fertility supplications and songs) and culminating with contemporary novels that explore adolescent and adult women's struggles for voice and identity within family, community, and history. Through the theme of women's identity, the course examines different writers and genres using written composition, oral participation, and critical thinking to engage in an ongoing investigation and inquiry into the myths and mysteries associated with the experience of being a woman.

### ENG05103 – Literature of the Holocaust (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

This course offers students the opportunity to investigate a selection of Holocaust literature, including the genres of non-fiction, fiction, poetry, theory and philosophy, and film. Over the course of the semester, we will discuss the question of why the Holocaust should still have relevance to those growing up in the new Millennium, despite the fact that those who witnessed and experienced it have nearly all died. Through an investigation that begins with Hitler's rise to power, we will analyze the structures of power and subjugation that allowed over six million people to be murdered. We will discuss at length the questions of memory, forgetting, and forgiveness. We will seek to negotiate the very troubling issue of the appropriation of someone else's experience and motivations for doing so. Group viewings and discussions of films will generate further conversation and ideally lead us to a better understanding of the Holocaust and our individual responsibilities in remembering, forgetting, and passing on the stories of its victims.

### ENG05106 – African-American Literature (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Fall

This course explores the roots of African-American literature and the literary portrayal of the African-American experience in the 19th and 20th Centuries. Through the themes of the African-American struggle for voice, identity and power, the course examines various writers and genres using written composition, oral participation, and critical thinking to engage in ongoing investigation and inquiry. Students analyze folktales, slave narratives, poetry, short stories, and novels by such authors as Frederick Douglass, Harriet Jacobs, Zora Neale Hurston, Ralph Ellison, and Toni Morrison. Literary works are contextualized in sociology and politics, and themes of representation and protest are analyzed in the context of broader human, spiritual, and intellectual themes. Attention to visual arts and music may enhance understanding of African-American history and culture.

## HUMANITIES: ENGLISH (Continued)

### ENG05109 – Lost Generation Literature (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Fall

Gertrude Stein told Ernest Hemingway, “You are all a lost generation,” labeling the expatriate writers who came to Paris after World War I. Lost Generation Literature focuses on the theme of disenchantment brought about by the meaningless end of the world’s first total war; the resulting materialistic boom and its following national extravagances, corruptions, and decadence; the hypocrisies of prohibition; and the spiritual bankruptcy of the “Jazz Age” or the “Roaring Twenties.” Students examine novels, short stories, and poetry using written composition, oral participation, and critical thinking to engage in ongoing investigation and inquiry of such twentieth-century literary giants as Stein, Anderson, Hemingway, Fitzgerald, Pound, Joyce, Eliot, Williams, and e.e. cummings. Women writers of the Left Bank whose works were shadowed by the more popular male writers during the twenties are now anthologized and add a new dimension to this course. As their final exam, students simulate Parisian salons and become the famous writers, artists, musicians, dancers, fashion designers, and publishers who frequented them.

### ENG05117 – Critical Approaches to Literature, Freudian and Jungian (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

This literary criticism course uses Freudian and Jungian psychology to analyze literature that focuses on the theme of the dual personality. Students delve into what is often labeled as true self vs. the false self, the concept of the “double,” ego vs. alter ego or mirroring personalities, and id, ego, and super-ego. Through psychological and archetypal analysis, the course examines different writers and genres using written composition, oral participation, and critical thinking to engage in ongoing investigation and inquiry. The theories of Freud and Jung are employed to analyze such literary works as *Grimm’s Fairy Tales*, *Dr. Jekyll and Mr. Hyde*, *Frankenstein*, *Winesburg, Ohio*, *A Doll’s House*, *The Metamorphosis*, *Lord of the Flies*, *Heart of Darkness*, *Faust*, *The Picture of Dorian Grey*, *Demian*, and *Beloved*. Students investigate psychological motives, unconscious desires and anxieties, myths and dreams as symbolic projections of people’s hopes, fears, and aspirations as they analyze the underlying human behavior of classical literary characters.

### ENG05133 – Poetry (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

In this course, students read and analyze poems written in English from the seventh through the twenty-first centuries, organized around such themes as family, nature, love, death, religious experience, and the imagination. Through discussion, formal and informal writing assignments, oral presentations, and a major project, students should develop as analytic and imaginative thinkers and writers while they learn to read poetry with greater understanding and pleasure. Traditional poetic themes are used with written composition, oral participation, and critical thinking for investigation and inquiry.

### ENG05134 – The Victorian Novel (CL)

**Prerequisite:** Completion of American Literature (ENG03101)  
**Credit:** 1 credit  
**Offered:** Fall

The Victorian Novel is an elective for students who wish to study the development of the novel and the evolution of literary thought in Great Britain from (approximately) 1830-1901. Students will read, among other works, influential novels by Emily and Charlotte Brontë, Thomas Hardy, Charles Dickens, and William Thackeray. Additional texts will include handbooks for understanding the context of the Victorian novel, and for writing papers on long-form works of literature. Class will consist of written and oral participation, research and creative projects, and formal and informal essays.

## HUMANITIES: ENGLISH (Continued)

### ELECTIVES

#### Other

#### ENG0511S2 – Linguistics (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** One year of world languages with a minimum grade of B or above.  
**Credit:** 1 credit  
**Offered:** Spring

Students in this one-semester class write poetry, short stories, plays, and creative non-fiction with opportunities for oral participation. The concept of manipulation of language to convey ideas, feelings, moods, and visual images is the basis of the course. The students become familiar with the standard literary elements through the reading and study of published prose and poetry and are taught to use those elements in their own writing. They learn strategies for evaluating their own writing and the writing of others. Students who are interested in an audience for their creative work and suggestions for improvement and development of their literary styles are encouraged to sign up for this course.

\*Ball State University offers 3 college credit hours in ENG 320 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

#### ENG05113S1/05113S2 – Creative Writing (CL)

**Prerequisite:** None  
**Note:** Students may enroll in Writing Fiction or Creative Writing at the Academy, but not both.  
**Credit:** 1 credit  
**Offered:** Fall or Spring

Students in this one-semester class write poetry, short stories, plays, and creative non-fiction with opportunities for oral participation. The concept of manipulation of language to convey ideas, feelings, moods, and visual images is the basis of the course. The students become familiar with the standard literary elements through the reading and study of published prose and poetry and are taught to use those elements in their own writing. They learn strategies for evaluating their own writing and the writing of others. Students who are interested in an audience for their creative work and suggestions for improvement and development of their literary styles are encouraged to sign up for this course.

#### ENG05123/05124 – AP English Language and Composition (CL)

**Prerequisite:** Permission of English Department. In keeping with College Board policy, this course is open to students who are academically prepared for it. Students prepared to benefit from this rigorous course have already shown an excellent work ethic and strong analytic and academic writing ability.  
**Credit:** 1 credit  
**Offered:** Fall/Spring Sequence

This year-long course, which prepares students to take the AP English Language and Composition exam, requires students to compose timed, evidence-based analytic and argumentative essays, written in response to College Board prompts, as well as to complete many informal writing exercises. Students will also conduct research, work on grammar and style, and learn to analyze the rhetorical strategies in visual texts and in non-fiction writing from many disciplines and historical periods.

#### ENG05130 – Great Literary Works: A Guided Independent Reading Course (CL)

**Prerequisite:** Completion of American Literature (ENG03101) and World Literature (ENG04220), or English-Human Struggles 1, 2 (ENG03201/ENG03202), **and Instructor Permission**  
**Credit:** 1 credit  
**Offered:** Fall

This fall guided reading course is designed for students who love to read independently. These readers are given an opportunity to select their own literary works, create their own syllabus, and discuss their works individually with the teacher. The course is also directed at students who would like to further their study of classical works. Students choose their syllabus readings from various college-bound literary reading lists compiled by the English Department. The teacher meets with the class as a group for four sessions to introduce the reading lists, guide students in the discussion process, and give directives for the required literary journal that is the writing component in the course. Students meet individually with the teacher from that point on for their conferences. The grade for this course is based primarily on the conference discussions and the journals.

## ELECTIVES

### English Quarter Courses

#### ENG05107 – Historical/Literature Themes (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 4

Students will read Hemingway's short stories that focus on a coming-of-age Nick Adams as he explores the fields, streams, and woods in northern Michigan and Michigan's Upper Peninsula; develops both relationships and conflicts with the Native American Odawa tribe in that area; ultimately becomes a soldier in WWI, and returns from that war psychologically troubled. Students will also read Hemingway's *For Whom the Bell Tolls*, his famous war novel set during the Spanish civil war. Considered one of the greatest war novels of all time, this masterpiece is seldom taught in a regular American Literature class because of its length.

#### ENG05118 – The Short Story (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 3

The short story is sometimes an under-appreciated art form. Within the space of a few pages, an author must weave a story that is compelling, create characters readers care about and drive the story to its ultimate conclusion. This short story quarter course will include many of the best short story writers of all time, authors who have mastered the art of the short story, turning condensed pieces into memorable works of literature. Students will read, analyze, and discuss short stories written in English or famous works that have been translated into English including major authors such as Hawthorne, Melville, Twain, Cather, Ellison, Hughes, Hemingway, Faulkner, Anderson, O'Conner, Salinger, Vonnegut, Munro, Mansfield, Erdrich, Alexie, Conrad, Joyce, Tolstoy, Chekhov, Borges, Garcia, Kafka, and many more.

#### ENG05119 – John Steinbeck (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 4

The course is an examination of John Steinbeck—the man himself; his place, primarily Monterey and Salinas, California; his influences, including ED Ricketts and Joseph Campbell; and his writing techniques, his style, and his themes. The course begins with a study of a series of his short stories, and continues with the study of two of his short novels, *Of Mice And Men* and *Cannery Row*. The second half of the course will consider his major novel, *The Grapes Of Wrath*.

#### ENG05120 – Writing Fiction (CL)

**Prerequisite:** None  
**Note:** Students may enroll in Writing Fiction or Creative Writing at the Academy, but not both.  
**Credit:** .5 credit  
**Offered:** Quarter 3

Writing Fiction is a quarter course that provides aspiring fiction writers with rigorous practice in writing fiction within a variety of contexts and genres. Students will read and write short fiction and discover strategies for producing evocative descriptions, exciting dialogue, engrossing characters, and stories worth telling. Students will write and revise their own work and discuss the work of their peers in and out of the classroom. Writing Fiction requires consistent writing, both in and out of class, and students who take the course can expect to have produced a sizeable quantity of creative fiction by the end of the quarter.

## HUMANITIES: ENGLISH (Continued)

### ENG05135 – Academic Writing: Exposition (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 3

Academic Writing: Exposition is designed for students who wish to concentrate on writing successful expository papers. The class stresses finding topics, organizational patterns, and developing a thesis with strong supporting materials. The major work of the course consists of four papers. The papers include: a personal narrative, an essay developed primarily by description, a paper developed by using examples, and a paper following the classification pattern of organization. Part of class time is used as workshop for instructor review of papers, peer editing, grammar review, sentence and paragraph construction, and working to eliminate common writing errors.

### ENG05136 – Academic Writing: Argumentation (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 4

Argumentation is a quarter course that offers students rigorous practice in writing argumentative academic papers. Students will learn classical and modern rhetorical strategies for persuading audiences through especially thoughtful written arguments. Students will write and revise a number of argumentative papers throughout the course, and will also read and analyze effective argumentative pieces written by their peers and scholars.

### ENG05137 – American Eco-poetry (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 3

In American Eco-poetry, students will learn ecocritical theory and apply it to poetic representations of environment. We will start with some foundational ecocritical theory and then move through environmental American poetry chronologically, noting historical context, form, the speaker's relation to the nonhuman, and the way nature is framed in individual poems. We will unpack poetic representations of environment in order to understand their literary value, but also discern the kinds of human/nonhuman relations these representations can provoke or invite. Students will contemplate representations and responses to nature as they embark on a service-learning project, which will allow them to practice creating the kind of representations that bring about sustainable human/nonhuman relations.

**THIS COURSE IS COUNTED AS AN ACADEMY ELECTIVE COURSE.**

### HUM02999 – Writing Lab (CP)

**Prerequisite:** Teacher Recommendation  
**Credit:** .5 credit  
**Offered:** Quarter 1 or 2

This course emphasizes essential structural and stylistic elements of composition, especially the formulation of a thesis statement, development of a theme and argument, and relevant use of logic, detail, textual illustration, and persuasive language. Issues of clarity, grammar, and form will be incorporated. *This course does not count as an English credit but may be used for elective credit.*

# HUMANITIES: SOCIAL STUDIES

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

## REQUIRED COURSES

All students must successfully complete **Foundations of the American Experience, American History 1, American History 2**, and one social studies elective to meet the social studies requirements.

### SOC200 – Foundations of the American Experience (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Fall

This course explores political and economic theory and practice from the ancient Mediterranean world into the twentieth century to prepare students for American History 1 and 2. Students will build their knowledge of key historical concepts and events, as well as their analytical abilities, to enhance their understanding of the politics and economics of the present.

### SOC201 – American History 1 (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Foundations of the American Experience  
**Credit:** 1 credit  
**Offered:** Spring

This course is a survey of American historical, intellectual, literary, cultural, mythic, economic, diplomatic, theological and political experiences which builds upon concepts developed in Foundations of American Experience. Students will examine key events, ideas, personalities and movements from European exploration to the end of Reconstruction as they relate to life in Indiana and the United States.

\*Ball State University offers 3 college credit hours in HIST 201 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SOC202 – American History 2 (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** American History 1  
**Credit:** 1 credit  
**Offered:** Fall or Spring

This survey course builds upon concepts developed in Foundations of the American Experience and of American History 1, and emphasizes national development from the late nineteenth century into the twenty-first century. Fundamental themes of a diplomatic, economic, political, intellectual, cultural, and social nature will be explored through the study of key events, personalities, groups, and movements as they relate to life in Indiana and the United States.

\*Ball State University offers 3 college credit hours in HIST 202 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

## ELECTIVES

### Topics in History

### SOC05101 – Indiana History (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

This course will examine the history of Indiana through the present day. Major personalities and important events in the political, economic, literary, philosophical, intellectual, educational, and social realms will be explored. Hoosier hospitality will be the norm for discussion—even when asking the age-old question: what exactly is a “hoosier?”

## HUMANITIES: SOCIAL STUDIES (Continued)

### SOC05103 – Humans and Other Animals: A New Global History from the Pleistocene to the Anthropocene (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

Animals riddle the pages of human history, yet most historians have made these animals invisible, relegating them to the margins. In actuality, though, animals have not only made human history itself possible, but they have appeared as important and central figures in every chapter of this history. The standard narratives of civilizations, societies, and nations are built upon the backs of animals, large and small. In many chapters of these tales, animals indeed may even prove more important than humans. This class attempts to push through and past a human-centered (anthropocentric) historical tradition to uncover a livelier, and more truthful, and complex past fashioned and experienced by all of the planet's animals-human and otherwise.

### SOC05107Q1 – Historical and Literary Themes: Colonial America, 1492-1763 (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 1

This course examines the major developments of North American settlement from European contact to 1763. Topics may include political, economic, social, religious, and military themes and address how settlement impacted race, ethnicity, and gender.

### SOC05107Q2 – Historical and Literary Themes: Revolutionary America, 1763-1800 (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 2

This course examines the disintegration of colonial ties, American independence, and the creation, implementation, and experiment of republican government in the late-eighteenth century. Specific themes may include the political, economic, social, religious, and military developments that led to independence and shaped the early United States.

### SOC05107Q3 – Historical and Literary Themes: U.S. Since 1945 (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 3

This intensive reading course examines the major developments in US history since World War II. Topics may include the Cold War, cultural and political movements of the 50s through 80s, Vietnam, the return of conservatism, globalization, life in the new information age, and race and ethnicity.

### SOC05107Q4 – Historical and Literary Themes: U.S. Women's History (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 4

This intensive reading course examines the major developments in American Women's History. Topics may include economic roles, marriage and family relations, political changes, the feminine "ideal," and activism. Special focus will be made on the intersection of race, ethnicity, and class with gender.



## HUMANITIES: SOCIAL STUDIES (Continued)

### SOC05130 – The West in the World (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

The West in the World is a survey of the development of Western Civilization since its origins emphasizing key problems, turning points, and recurring themes, especially in the past two centuries. The course emphasizes the civilization that emerged and developed in Europe and spread to the Americas during the past two millennia. The West in the World also focuses on the way peoples around the globe helped to shape Western Civilization and how they felt its influence. Non-Western civilizations have exercised a powerful influence on Western Civilization, and the West has interacted with the rest of the world throughout its history.

\*Ball State University offers 3 college credit hours in HIST 150 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SOC05140 – History of World Religions (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

This course will explore the development of religions around the world from prehistoric to modern times. The major world religions will be studied, along with religions of the ancient world and of non-literate peoples. Primary sources will be emphasized to understand the key components of various religions. Special emphasis will also be placed on early developments, exploring the interaction between different religions, as well as the relation of religions to the historical time periods through which they develop.

### SOC05143 – Readings in American Working-Class History (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 1

This is an intensive reading course that will explore major issues and historiographical trends in American working-class history. Using selected primary and secondary sources, students will gain a working knowledge of American working-class history. Topics may include, but are not limited to, the institution of slavery as a labor system, the early attempts at solidarity, the rise of corporate capitalism, the emergence of labor organizations during the industrial period, the ideologies of the working class, and the impact of downsizing on workers. Specific attention will be given to the roles of gender, race, ethnicity, and technological changes in defining the experiences of the working class.

### SOC05145 – Readings in the History of Science and Technology (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 3

This is an intensive reading course that will explore major issues and historiographical trends in the History of Science and Technology. Using primary and secondary sources, students will gain a working knowledge of important issues in the history of science and technology. Topics may include, but are not limited to, the philosophy of science, the evolution of scientific thought from Ancient Greece to the modern period, the development of different technologies, and the evolution of medicine.

### SOC05146 – Readings in Appalachian Regional History (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 4

This is an intensive reading course that will explore major issues and historiographical trends in Appalachian Regional History. Using selected primary and secondary sources, students will gain a working knowledge of Appalachian Regional History. The course will examine Appalachia's three phases of development: traditional society in the 19<sup>th</sup> century, the industrialization of the region in the early 20<sup>th</sup> century, and the problems facing contemporary Appalachia, with a specific focus on migration from the region to Indiana and other Midwestern states after World War II.

## HUMANITIES: SOCIAL STUDIES (Continued)

### SOC05148 – The American Civil War and Reconstruction Era, 1850-1877 (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

The American Civil War represents the seminal event in the nation's history, and the period of Reconstruction that followed it profoundly shaped the war's impact and legacy. This course will give students a firm grasp of the events, people, and issues that led the nation to war. It will address how the war unfolded, explore the positive changes experienced by freedmen during the initial stages of Reconstruction, and discuss how and why the nation eventually reunified at the expense of African-American political and civil rights. The course will cover military, political, social, and economic factors in the causes of the war and Reconstruction. As students explore the topic of the American Civil War era, they will develop historical research skills using both primary and secondary sources.

### SOC05149 – Readings in American History, 1920-1945 (CL)

**Prerequisite:** None  
**Credit:** .5 credit  
**Offered:** Quarter 2

This is an intensive reading course that explores American national history from 1920 to 1945. Particular attention may be given to national political, economic, social, and cultural development during the 1920s, the Great Depression and New Deal, and the American home front in the first half of the 1940s.

### SOC05150 – Themes in Ethnic Studies (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

This course will explore the historical development, lifestyles, and cultural patterns of ethnic groups in the United States and the world. Course themes may include a focus on a particular ethnic group or groups, or may use a comparative approach to study the cultural development, political trends, and economic impact of various ethnic or cultural groups, as well as issues of immigration and assimilation. Literary works emanating from the various ethnic groups may also be subject to scrutiny and discussion.

## ELECTIVES

### Topics in Social Science

### SOC05123 – The Living Constitution and the American Legal System (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Fall

The Constitution of the United States is viewed as a living document as current events, politics, and major issues facing the United States form one focus for this course. The second area of focus will be law: criminal law, Constitutional law, and due process. As students explore the Constitution and the American legal system, they will utilize methods of inquiry and develop research and thinking skills. This course will be of great interest to students with career aspirations in political science or law.

### SOC05142 – History Through Art and Architecture (CL)

**Prerequisite:** Not open to students with credit in Social History of Art  
**Credit:** 1 credit  
**Offered:** Fall

An introduction to the meanings and purposes of art and architecture in human society. Subjects covered would include non-Western and pre-Modern cultures. Potential themes would include art and architecture as media of communication, tools of power, and expressions of identity. Specific topics might include: anthropological perspectives on "primitive" art; the human form in ancient Greece and Rome, connected to and compared with the human form in South Asia; Western "history painting" from the Alexander mosaic to Picasso's *Guernica*; the human image and iconoclasm in medieval Western, Byzantine, and Islamic art; landscape painting and the invention of the environmentalist ethic; sacrifice, self-sacrifice and political prestige in pre-Columbian Mesoamerica; art as a luxury good in modern capitalist societies; "agitprop" and advertising in the twentieth century.

# HUMANITIES: WORLD LANGUAGES

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

Academy students are invited to take Chinese and/or Arabic at Ball State University. Contact the Guidance Office for details.

## FRN101/102 – Accelerated French I (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** None  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

This course introduces the fundamental elements of the French language. Emphasis is on the development of basic listening, speaking, reading, and writing skills in the context of cultural exploration of the Francophone world. Using authentic resources, students will learn functional vocabulary, be introduced to different cultures, and discover how the French language and culture connects with their own. Students learn to participate in brief conversations, to read and understand words, phrases and short passages in context, and to respond in writing to various stimuli, all while demonstrating cultural awareness.

\*Ball State University offers 4 college credit hours in FR 101 and 102 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

## FRN2A/2B – Intermediate French II (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** French I (FRN1B) or permission of instructor  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

This course builds upon the fundamental elements of the language through extended vocabulary and the introduction of complex grammatical structures. Students will continue to develop listening, speaking, reading, and writing skills in a cultural context. Using authentic resources, students will expand their vocabulary, be introduced to different cultures, and discover how the French language and culture connects with their own. By the end of the course, students should be able to speak, read, write and comprehend French with increasing proficiency while demonstrating cultural awareness of the Francophone world.

\*Ball State University offers 3 college credit hours in FR 201 to students who complete both semesters of this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

## FRN3A/3B – Advanced French III (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** French II (FRN2B) or permission of instructor  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

This course continues to build upon the fundamental elements of the language through extended vocabulary and more complex grammatical structures. Students will refine listening, speaking, reading, and writing skills in a cultural context. Using authentic resources, students will expand their vocabulary and grammar while studying aspects of different cultures. Students will participate in meaningful class discussions in French about a variety of topics. By the end of the course, students should be able to speak, read, write and comprehend French with increased proficiency while demonstrating a cultural understanding of the Francophone world.

\*Ball State University offers 3 college credit hours in FR 202 to students who complete both semesters of this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

**HIGHER LEVELS OF FRENCH may be taken at Ball State University. The Academy is not responsible for fees associated with these courses.**

## HUMANITIES: WORLD LANGUAGES (Continued)

### GER1A/1B – Accelerated German I (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** None  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

This course is designed to introduce students to the fundamentals of German grammar and to basic vocabulary. Emphasis is on the development of both written and verbal skills. To that end, students participate in activities pertaining to German language and culture in and outside of class. The goal is for students to accomplish the level of proficiency that enables them to communicate accurately and comfortably on a conversational basis and to be able to write in a clear, comprehensible manner in the German language. Students are expected to utilize communication skills such as responding and giving oral directions and commands, making routine requests, understanding and using appropriate forms of address, telling about daily routines and events, asking and answering simple questions and participating in brief conversations, reading isolated words and phrases in a situational context, comprehending words and phrases in appropriate contexts and responding in writing to various topics.

\*Ball State University offers 4 college credit hours in GER 101 and 102 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### GER2A/2B – Intermediate German II (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** German I (GER1B) or permission of instructor  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

In both semesters of this course, students use the textbook “Stationen,” which focuses on major cities in Germany, Austria, and Switzerland. Each chapter highlights important historical events and characteristics of a particular city and famous people associated with that city. In addition to the cultural aspect, students are introduced to more complex grammar structures and asked to begin incorporating those structures into their writing and speaking in order to achieve the level of proficiency consistent with a second year college level language course. A variety of exercises and activities help to practice the new vocabulary and grammar so that students improve their writing, reading, speaking and listening skills while learning about German culture, history, and literature.

\*Ball State University offers 3 college credit hours in GER 201 to students who complete both semesters of this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

**3rd Year German is not offered at the Academy. To fulfill their language requirement students can take 3rd year German at Ball State. The Academy is not responsible for fees associated with courses beyond 3rd year German.**

## HUMANITIES: WORLD LANGUAGES (Continued)

### JPN1A/1B – Accelerated Japanese I (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** None  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

The Japanese I course is designed for beginners to acquire basic working knowledge of spoken as well as written Japanese. Students are expected to be able to make statements, ask and answer questions about basic daily routines and events and to be able to read and write those sentences using the two sets of alphabet, called *hiragana* and *katakana*, and basic Chinese characters, called *kanji*. Elements of Japanese culture, history and geography are regularly integrated throughout the course of the semester.

\*Ball State University offers 4 college credit hours in JPN 101 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### JPN2A/2B – Intermediate Japanese II (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** Placement or Japanese I (JPN1B)  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

The Japanese II course is designed for the fuller development of the working knowledge of spoken and written Japanese acquired in the level one course. Students are also expected to be able to ask questions regarding routine activities, participate in conversations on a variety of topics, relate a simple narrative about a personal event or experience, interact in a variety of situations to meet personal needs, understand main ideas and facts from simple texts, read aloud properly, and write briefly in response to given situations. Elements of Japanese culture are regularly integrated throughout the course.

\*Ball State University offers 4 college credit hours in JPN 102 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### JPN3A/3B – Advanced Japanese III (CL)

**Prerequisite:** Japanese II (JPN2B) or permission of instructor  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

The Japanese 3A/3B course is the continuation of Japanese 1A/1B and 2A/2B, which aims at the further development of the ability of the students in using the four skills of the Japanese language. This is a full immersion course. Students are required to discuss the contents of culture lessons in Japanese, thus integrating the learning of the culture with that of the language. Over the year, students gain speaking skills to give presentations in Japanese, participate in academic discussions, take job interviews and work in a Japanese environment. Students will also read authentic Japanese materials such as newspapers and novels, and regularly watch Japanese media. With the completion of the "Genki" series, they will have acquired a total of 317 *kanji* characters by the end of their course, which allows them to read any material in Japanese with the help of a dictionary. They should be ready to take JLPT (Japanese Language Proficiency Test) 3 Level at the end of the year, and be eligible for a third-year university level in Japanese.

## HUMANITIES: WORLD LANGUAGES (Continued)

### LAT1A/1B – Accelerated Latin I (CL)

**Prerequisite:** None  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

Latin 1A/1B is an introduction to the Latin language and Greco-Roman culture. The primary goal of the course is to develop reading fluency in Latin. This is achieved by reading progressively difficult texts in Latin, memorizing and drilling grammatical topics, speaking and interpreting simple Latin questions and conversation, and gaining proficiency in relevant cultural topics through regular English readings about the Greco-Roman world. Students will also learn about Latin's influence on the languages of Europe and its historical role as the *lingua franca* of the European academy.

### LAT2A/2B – Intermediate Latin II (CL)

**Prerequisite:** Latin I (LAT1B) or permission of instructor  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

Latin 2A/2B is a continuation of the themes of Latin 1A/1B. Students will develop an increasingly sophisticated understanding of the Latin language and Greco-Roman culture, with the goal of accessing primary texts. Reading fluency is still the primary goal of the course, which is achieved by reading progressively challenging texts in Latin, memorizing and drilling grammatical topics, speaking and interpreting simple questions and conversation in Latin, and acquiring cultural proficiency through regular English readings about the Greco-Roman world. Students will continue learning about Latin's relationship to the languages of Europe and its historical role as the *lingua franca* of the European academy.

**3rd Year Latin is not offered at the Academy. To fulfill their language requirement students can take 3rd year Latin at Ball State. The Academy is not responsible for fees associated with courses beyond 3rd year Latin.**

### RUS1A/1B – Accelerated Russian I (CL)

**Prerequisite:** None  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

This course focuses on the skills required for speaking, reading, writing and comprehending Russian. Particular attention is given to acquiring an understanding of the fundamental grammar structure of Russian, together with pronunciation, intonation, and mastery of the Cyrillic alphabet. In addition, students are expected to utilize communication skills such as responding to and giving oral directions and commands, understanding simple conversations, participating in discussions and conversations on an elementary level in the target language. At the conclusion of the 1A/1B sequence, students will have learned all six cases and their inflectional endings, as well as basic vocabulary necessary for everyday communication. Additionally, students will be exposed to Russian literature and early Russian history with the ultimate goal of understanding the Russian people and their rich heritage.

### RUS2A/2B – Intermediate Russian II (CL)

**Prerequisite:** Russian I (RUS1B) or permission of instructor  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

This course presumes facility in the basic skills and knowledge developed in Russian 1A/1B, and begins with a review of the six cases and verbal aspect. Students will be introduced to vocabulary that enables them to converse about the weather, make telephone calls, give directions, discuss adaptations of literary works and movies, among many other useful and everyday topics. Increased attention is paid to the more complex grammar structures that students are expected to utilize in their written work as well as in their conversations. In addition, students will continue to learn about Russian culture, history, geography, and literature. Students will be asked to read the literature (or adaptations from famous works) in the original language. By the end of the 2A/2B sequence, students should have gained a satisfactory understanding the Russian language and the Russian way of life.

## HUMANITIES: WORLD LANGUAGES (Continued)

### SPN1A/1B – Accelerated Spanish I (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** None  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

This course focuses on basic oral and written skills while developing an understanding of the cultures of the Spanish-speaking world. Instructional methods are based primarily on learner-centered pedagogies such as communicative language teaching, cross-cultural analysis, modified lectures, authentic language materials and sources, productive and receptive instructional exercises, and individual and cooperative in-class activities.

\*Ball State University offers 3 college credit hours in SP 102 to students who complete both semesters of this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SPN2A/2B – Intermediate Spanish II (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** Placement or Spanish I (SPN102)  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

The second course in the Spanish language series, this course represents a continuation of grammar, vocabulary, pronunciation and listening with emphasis on both reading and writing. In addition, special emphasis is placed upon the language as an integral component of Spanish and Hispanic cultures.

Students are expected to be able to ask questions regarding routine activities, participate in conversations on a variety of topics, relate a simple narrative about a personal event or experience, interact in a variety of situations to meet personal needs, understand main ideas and facts from simple texts, read aloud properly, and write briefly in response to given situations.

\*Ball State University offers 3 college credit hours in SP 201 to students who complete SPN201 and 202. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SPN3A/3B – Advanced Spanish III (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** Placement or Spanish II (SPN202)  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

Building upon and drawing distinctions from skills established within the grammar, vocabulary, pronunciation, listening and culture curriculum of the previous courses, this course focuses on listening (Spanish film, news broadcasts, etc.), speaking (oral presentations), reading comprehension and writing (summarization of reading passages, essays). Students are expected to respond to factual and interpretive questions and interact in a variety of social situations, read for comprehension, read short literary selections of poetry, plays, and short stories, complete authentic forms and documents and take notes that require familiar vocabulary and structures, write paraphrases, summaries, and brief compositions, describe different aspects of the culture, and participate appropriately.

\*Ball State University offers 3 college credit hours in SP 202 to students who complete both semesters of this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

**HIGHER LEVELS OF SPANISH may be taken at Ball State University. The Academy is not responsible for fees associated with these courses.**

# MATHEMATICS

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

## MAT02999/03000 – Geometry (CP)

**Prerequisite:** Algebra I  
**Credit:** 1 credit per semester  
**Offered:** Fall/Spring Sequence

In this two-semester sequence, geometry students examine the properties of two- and three-dimensional objects. Proof and logic, as well as investigative strategies in drawing conclusions, are stressed. Properties and relationships of geometric objects include the study of (1) points, lines, angles and planes; (2) polygons, with a special focus on quadrilaterals, triangles, right triangles; (3) circles; and (4) polyhedral and other solids. Use of graphing calculators and computer drawing programs is included.

This course is available through Burriss Laboratory School and meets 5 days a week.

## MAT03001/03002 – Advanced Algebra/Trigonometry 1, 2 (CP)

**Prerequisite:** Placement  
**Credit:** 1 credit per semester  
**Offered:** Fall/Spring Sequence

This course covers topics that include solutions of systems of equations and inequalities, simplifying algebraic expressions, radicals, polynomial, exponential and logarithmic functions, circular and trigonometric functions including trigonometric identities and the trigonometry of right triangles. This course serves as preparation for Precalculus.

## MAT03101/03102 – Precalculus 1, 2 (CP)

**Prerequisite:** Placement  
**Credit:** 1 credit per semester  
**Offered:** Fall/Spring Sequence

This course provides a thorough, careful study of basic precalculus topics. Topics include linear and quadratic functions, polynomial functions, inequalities, graphs of functions, exponential and logarithmic functions, trigonometric functions and equations, and triangle trigonometry.

Students completing this course will generally choose two courses from among Calculus, Statistics, and Finite Mathematics for the senior year. Exceptional students may be allowed to enroll in Advanced Placement Calculus AB.

## MAT03311/03312 – Precalculus for Advanced Placement 1, 2 (CP)

**Prerequisite:** Placement  
**Credit:** 1 credit per semester  
**Offered:** Fall/Spring Sequence

This course provides the rigorous development of precalculus topics necessary to prepare students for studying Advanced Placement Calculus. The first semester will include the study of polynomial, exponential, logarithmic and trigonometric functions and their graphs. Topics for the second semester include triangle trigonometry, polar coordinates, vectors, sequences and series, analytic geometry, parametric equations, and limits. Elementary proof techniques will be employed throughout the course.

Successful completion of this course will generally result in enrollment in Advanced Placement Calculus AB or BC the senior year.

## MAT04005 – Calculus (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Precalculus 2 (MAT03102) or Precalculus for AP 2 (MAT03312)  
**Credit:** 1 credit  
**Offered:** Fall

This course is an introduction to differential and integral calculus. Topics include limits, continuity, derivatives and definite integrals. The emphasis will be on applications and writing, rather than on theory.

Not open to students with credit in Advanced Placement Calculus.

\*Ball State University offers 3 college credit hours in MATH 132 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.



## MATHEMATICS (Continued)

### MAT04123/04124 – AP Calculus AB 1, 2 (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Precalculus for AP 2 (MAT03312) or Precalculus 2 (MAT03102) with teacher recommendation, or placement  
**Credit:** 1 credit per semester  
**Offered:** Fall/Spring Sequence

This course covers the College Board's AB syllabus in Advanced Placement Calculus. Students are encouraged to register for the AP exam and may find that their college grants them credit equivalent to one semester of college calculus. Topics covered include properties of functions, limits, differential calculus and its applications, and integral calculus and its applications. Treatment of these topics involves both theory and its implementation on graphing calculators.

Not open to students with credit in AP Calculus BC.

\*Ball State University offers 4 college credit hours in MATH 165 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### MAT04133/04134 – AP Calculus BC 1, 2 (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Precalculus for AP 2 (MAT03312) with teacher recommendation, or placement  
**Credit:** 1.25 credits per semester  
**Offered:** Fall/Spring Sequence

This course meets four days a week and covers the College Board's BC syllabus in Advanced Placement Calculus. Students are encouraged to register for the AP exam and may find that their college grants them credit for up to two semesters of calculus. Topics covered include limits, derivatives, integrals, series, vectors, and parametric equations, as well as their application in numerous real-world problems. Treatment of these topics involves both theory and its implementation on graphing calculators.

AP Calculus BC 1 is not open to students with credit in AP Calculus AB 2.

\*Ball State University offers 4 college credit hours per semester in MATH 165 and MATH 166 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### MAT04514 – Statistics (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Algebra II  
**Credit:** 1 credit  
**Offered:** Fall or Spring

In this course, students do activities that guide them to discover statistical concepts, explore statistical principles, and apply statistical techniques. The course focuses on developing statistical reasoning through analysis of genuine data. The students will learn to describe the distribution of a variable, compare the distributions of two or more variables, and describe the relationship between two variables. The course introduces the issues of sampling, surveys, and experiments. Probability is introduced through simulations and these simulations build an understanding of the Central Limit Theorem. Inferences from data include confidence intervals and significance tests for a proportion, a mean, the difference between two proportions, and the difference between two means, both for matched pair designs and independent samples. Exploratory data analysis, data production issues and interpretation of results by the students are emphasized throughout.

\*Ball State University offers 3 college credit hours in MATH 181 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### MAT04515 – Quantitative Reasoning (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Algebra II (Not open to students who have credit in or are taking BSU MATH 125)  
**Credit:** 1 credit  
**Offered:** Spring

This course exposes students to a variety of practical applications in order to further develop problem-solving skills and other fundamental mathematics skills. Elementary probability theory and basic statistics are core topics of the course. Additional topics are selected from linear programming, mathematics of finance, voting methods, and graph theory.

\*Ball State University offers 3 college credit hours in MATH 125 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

## MATHEMATICS (Continued)

### MAT04522 – Discrete Mathematics (CL)

**Prerequisite:** Precalculus for Advanced Placement 2 or the equivalent  
**Credit:** 1 credit  
**Offered:** Fall

The course is a survey of discrete mathematical topics selected from among logic, set theory, cardinality of sets, number systems, graph theory, combinatorics, recursion, and discrete probability. This course uses various proof techniques including mathematical induction and stresses algorithmic thinking and precise mathematical expression.

### ADVANCED ELECTIVES

### MAT04825 – AP Statistics (DC)

**\*Available for College Credit (see pg. ii)**

**Corequisite:** Precalculus for AP 2 (MAT03312) or permission of Division Chair  
**Credit:** 1.25 credits  
**Offered:** Spring

This course meets four days a week and covers the College Entrance Examination Board's syllabus in Advanced Placement Statistics. It is organized around the four broad conceptual themes of exploring data, planning a study, producing models using probability and simulation, and statistical inference. Exploratory analysis of data uses graphical and numerical techniques. An appropriate graphing calculator, such as the TI-84, and appropriate statistical software, such as Minitab or SAS, are used. The variety of associations among variables permeates most of statistics. Exploring these types of associations will engage critical thinking, problem solving, and creative abilities.

\*Ball State University offers 3 college credit hours in MATH 181 to students who complete this course. Students who received dual credit for MATH 181 from Statistics (MAT04514) are not eligible to also receive dual credit for MATH 181 from AP Statistics. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### MAT04831 – Probability Theory (CL)

**Prerequisite:** AP Calculus AB 1 (MAT04123) or AP Calculus BC 1 (MAT04133)  
**Credit:** 1 credit  
**Offered:** Fall

This course is a calculus-based introduction to the theory of probability. It includes topics such as expectations, conditional probability, discrete and continuous random variables, probability distributions, empirical probabilities, and formulation of mathematical models.

### MAT04832 – Linear Algebra (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** AP Calculus AB 2 (MAT04124) or AP Calculus BC 1 (MAT04134)  
**Credit:** 1.25 credits  
**Offered:** Fall

This course meets four days a week and includes the solution of linear systems, vector equations, linear transformations in two- and three-dimensional space, matrices and determinants, vector spaces, inner product spaces, eigenvalues and eigenvectors and related topics. There are some computational projects.

\*Ball State University offers 4 college credit hours in MATH 217 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

## MATHEMATICS (Continued)

### MAT04833 – Multivariable Calculus (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** AP Calculus BC 2 (MAT04134)  
**Credit:** 1.25 credits  
**Offered:** Fall

This course meets four days a week and covers multidimensional calculus with applications. The topics include higher dimensional analytic geometry, vector-valued functions, motion, curvature and torsion, partial differentiation, directional derivatives, optimization, multiple integration in rectangular, cylindrical and spherical coordinates, vector fields, divergence, curl, line and surface integrals, work, flux, flow, Green's theorem, the divergence theorem, Stokes' theorem, and the fundamental theorem for line integrals. Students work with graphing calculators and a computer algebra package.

\*Ball State University offers 4 college credit hours in MATH 267 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### MAT04834 – Differential Equations (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** AP Calculus BC 2 (MAT04134) or concurrent enrollment in AP Calculus BC 2 with the permission of the Math/CS Division Chair  
**Credit:** 1 credit  
**Offered:** Spring

This course is an introduction to ordinary differential equations and boundary value problems. The topics include first order linear, separable, exact, and homogeneous equations with applications in biology, chemistry, physics, and finance; numerical methods for first order equations; second order linear homogeneous and non-homogeneous equations, including the methods based on reduction of order; undetermined coefficients and variation of parameters with applications in physics;  $n^{\text{th}}$ -order linear equations and systems of first order linear equations including use of eigenvectors and eigenvalues.

\*Ball State University offers 3 college credit hours in MATH 374 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

# COMPUTER SCIENCE

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

## CMP03301– Computer Applications (CP)

**Prerequisite:** Placement  
**Credit:** .5 credit  
**Offered:** Fall - Open only to Juniors

This online course is a brief introduction to currently popular and useful elementary software applications.

## CMP04101 – Web Page Development (XC)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Fall

This course is the study of multimedia computer concepts. The student will learn the current version of HTML, DHTML, XHTML and other software packages to develop Web Pages that could be placed on the Internet. The student will use multimedia computer equipment (scanner, digital camera, etc.), multimedia computer files, and software.

## CMP04112 – Multimedia Production (XC)

**Prerequisite:** Web Page Development (CMP04101) or permission of instructor  
**Credit:** 1 credit  
**Offered:** Spring

This course will familiarize students with basic techniques using hardware and software tools to create various media for multimedia productions. The course is divided into four sections: graphic creation, audio capture, video capture, and animation. Students will complete three projects and a Final Project..

## CMP04201 – Introduction to Programming (CL)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Fall and Spring

This course is an introduction to computer programming (C++) and is designed for students with little or no previous programming experience. Students will learn to program using a top-down design, structured, and object-oriented approach. Topics will include using basic variables, loops, strings, arrays, functions, and basic input/output files.

## CMP04202 – Visual Programming (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Introduction to Programming (CMP04201) suggested or experience in structured programming language or permission of instructor  
**Credit:** 1.25 credit  
**Offered:** Fall

This course is an introduction to visual programming using a high-level language (Python) and an established programming paradigm. Developing problem solving skills and programming techniques will be emphasized. Skills learned in this course will be applied to computer gaming and software development.

\*Ball State University offers 4 college credits in CS 120 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

## COMPUTER SCIENCE (Continued)

### CMP04501/04502 – AP Computer Science A 1, 2 (DC)

\*Available for College Credit (see pg. ii)

- Prerequisite:** Fall: Introduction to Programming (CMP04201) or experience in structured programming language and permission of instructor  
Spring: Successful completion of first semester AP Computer Science A.
- Credit:** 1.25 credits
- Offered:** Fall/Spring Sequence

This course uses a high level, object oriented programming language (Java). Students will learn syntax and the development of algorithms. The emphasis is on developing problem-solving skills and programming techniques. This course is designed for students with a computer programming background who desire a more challenging programming course. Semester 1 topics will include defining variables, primitive types vs. objects, methods, strings, if/else conditionals, loops, one- and two-dimensional arrays, array lists, inheritance, interfaces, abstract classes, basic input/output files and using applets, error handling, testing and debugging. Semester 2 topics will include using data structures such as linked lists, stacks, queues, binary trees, sequential and binary searching, sorting, traversing trees, and hashing. Laboratory activities include the required AP Computer Science A lab exercises.

Successful completion of this course will prepare the student for the Advanced Placement Computer Science A exam.

\*Ball State University offers 4 college credit hours in CS 121 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### CMP04605 – Introduction to Virtual Reality (CL)

- Prerequisite:** Introduction to Programming (CMP04201) or permission of instructor
- Credit:** 1 credit
- Offered:** Spring

This course will provide an introduction to the study of virtual reality. Students will explore the basics of virtual reality, 3D graphics, and programming in the world of virtual reality.

# SCIENCE: PHYSICS EMPHASIS

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

**Students will be placed in the appropriate physics level based on their math enrollment. Juniors may wish to delay taking physics until their senior year in order to build their math abilities.**

For students who have no credits in General Physics, a comprehensive physics test, covering the subject matter of the two semesters of General Physics at the Academy, will be given to those students attempting to place out of the lecture portion of the course. This test will include questions to satisfy the Indiana physics standards and additional questions to satisfy the higher expectations of the Academy. The test will be given before classes start in the fall and may be taken only once.

There are two possible outcomes of this test:

- The student does not pass the exam, and thus is assigned to a physics course as the Academy math placement test dictates.
- The student does pass the exam, and thus can –
  - elect to not place out and thus take the General Physics course and that earned grade will appear on the transcript
  - use the spare credit to take another Academy course. If this path is chosen, they will be required to take and pass both semesters of the lab portion of the General Physics course
  - take AP Physics I
  - take AP Physics C (if the student is concurrently enrolled in Calculus BC)

Passing this comprehensive physics placement test (upon completion of the laboratory requirement), or a higher level class, will satisfy a student's survey physics course requirement for their Indiana Academy diploma.

## SCI03101/03102 – Physics I: General Physics (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Fall: Algebra II  
Spring: Successful completion of first semester General Physics or permission of Science Division Chair.  
**Co-requisite:** Precalculus 1, 2 (MAT03101/03102) or higher and Physics I: General Physics Lab (SCI3101L/3102L)  
**Credit:** 1.5 credits per semester  
**Offered:** Fall/Spring Sequence

General Physics I-II is a high school level course which provides an introduction to the basic principles of physics. Topics include motion, force, energy, heat and thermodynamics, wave motion, sound, light, electricity and magnetism and, as time allows, topics in modern physics. A basic knowledge of algebra and geometry is required for this course. Mathematics in the course serves as a tool to define and describe physical relationships and the logical progression of ideas. The lab portion of the course models the scientific process, and gives students hands on experience in dealing with many of the concepts covered in the course.

\*Ball State University offers 3 college credit hours in PHYC 100 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

## SCI03111/03112 – AP Physics I (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Precalculus and math placement test score or permission of instructor or co-requisite enrollment in Academy Precalculus for AP.  
**Credit:** 1.5 credits per semester  
**Co-requisite:** AP Physics I Lab (SCI3111L/3112L)  
**Offered:** Fall/Spring Sequence

AP Physics I proceeds at an accelerated pace and provides a physical introduction to the main principles of physics, which include Newtonian mechanics, oscillations and sound, electricity and magnetism, kinetic theory and thermodynamics, fluids, optics and modern physics. Emphasis will be given to linear and rotational applications to kinematics, forces, and momentum, as well as energy and power, gravitation, harmonic motion, and introductory electric circuits. Knowledge of geometry, algebra and some trigonometry is required for this course. Laboratory investigations emphasize concepts and inquire in order to develop proficiency in problem solving and in the application of fundamental principles to a wide variety of situations. This course is intended for those students whose career goals include life or earth science, pre-medicine, as well as other fields not directly related to science. Students will prepare for and are encouraged to take the AP Physics I exam in May.

\*Ball State University offers 3 college credit hours in PHYC 110 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

## SCIENCE: PHYSICS EMPHASIS (Continued)

### SCI03113/03114 – AP Physics II (XC)

**Prerequisite:** AP Physics I or permission of the instructor  
**Credit:** 1.5 credits per semester  
**Co-requisite:** AP Physics II Lab (SCI3113L/3114L)  
**Offered:** Fall/Spring Sequence

AP Physics II builds upon what was learned in AP Physics I, and will emphasize fluid statics and dynamics; thermodynamics and kinetic theory; PV diagrams and probability; electrostatics, electric circuits with capacitors, magnets and electromagnetism; physical and geometric optics, and various topics in modern physics. Knowledge of geometry, algebra and some trigonometry is required for this course. Laboratory investigations emphasize concepts and inquiry in order to develop proficiency in problem solving and in the application of fundamental principles to a wide variety of situations. This course is intended for those student whose career goals include life or earth science, pre-medicine, as well as other fields not directly related to science. Student will prepare for and are encouraged to take the AP Physics II exam in May.

### SCI04102/04103 – AP Physics C (DC)

**\*Available for College Credit (see pg. ii)**

**Prerequisite:** Fall: A General Physics Course completion and /or concurrent enrollment in a calculus course or permission of the Science Division Chair.  
Spring: Successful completion of first semester AP Physics C.  
**Co-requisite:** AP Physics C Lab (SCI4102L/4103L) or permission of instructor.  
**Credit:** 1.5 credits per semester  
**Offered:** Fall/Spring Sequence

This calculus-based physics course forms the first part of the college sequence, normally extending over two or three semesters. Physical Mechanics, Wave Motion, and Heat for the first semester, and Electricity, Magnetism, Optics and Thermodynamics for the second semester. Strong emphasis is placed on solving a variety of challenging problems with an emphasis on analysis in both the laboratory and classroom. Calculus is used freely in formulating principles and in solving problems. This course serves as the foundation for students whose career goals include the physical sciences or engineering, but has many applications to geo-physics, bio-physics and other interdisciplinary fields. Students will prepare for and are strongly encouraged to take both the College Board AP physics C: Mechanics exam and the College Board AP Physics C: Electricity & Magnetism exam in May.

\*Ball State University offers 5 college credit hours each semester in PHYC 120 and 122 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SCI04107 – Physics II: Modern Physics (XC)

**Prerequisite:** A General Physics Course  
**Co-requisite:** Physics II: Modern Physics Lab (SCI4107L) and AP Calculus AB 1, 2 (MAT04123/04124) or above  
**Credit:** 1.5 credits  
**Offered:** Spring

The course includes Einstein's theories of relativity, quantum physics, quantum mechanics, and atomic physics. Other topics covered include properties of nuclei, nuclear models, radioactivity, nuclear fission and fusion, particles and anti-particles, conservation laws, quarks, and standard model. Laboratory work will enhance the concepts learned in class. This course is intended for students interested in majoring in science, medicine, or engineering.

### SCI04116 – Physics II: Introduction to Engineering (XC)

**Prerequisite:** None  
**Co-requisite:** Physics II: Introduction to Engineering Lab (SCI4116L)  
**Credit:** 1.5 credits  
**Offered:** Fall

This course will provide students with an introduction to engineering as a profession through case studies and hands-on projects in several areas of engineering, including robotics. In particular, students will work in teams, applying engineering principles, to build and test simple robots. Students will have the opportunity to participate in a robotics competition.

### SCI04117 – Physics II: Projects in Engineering (XC)

**Prerequisite:** One semester of physics; Intro to Engineering or instructor permission

**Co-requisite:** Physics II: Projects in Engineering Lab (SCI4117L)

**Credit:** 1.5 credits

**Offered:** Spring

Students will develop and work on engineering-related projects that have a strong community service component. The class will be divided into small groups and work on projects based upon common interest. All projects will be required to demonstrate development and application of engineering skills in addition to fulfilling an identified need in the community. The class will have a regularly assigned class period but much of the work will be completed outside of regular class time. Project groups will meet with the instructor on a regular basis.



## SCIENCE: CHEMISTRY EMPHASIS

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

For students who have no credits in General Chemistry, a comprehensive chemistry test, covering the subject matter of the two semesters of General Chemistry at the Academy, will be given to those students attempting to place out of the lecture portion of the course. This test will include questions to satisfy the state chemistry standards and additional questions to satisfy the higher expectations of the Academy. The test will be given before classes start in the fall and may be taken only once.

There are two possible outcomes of this test:

- The student does not pass the exam, and thus takes General Chemistry
- The student does pass the exam, and thus can –
  - elect to not place out and thus take the General Chemistry course and that earned grade will appear on the transcript
  - use the spare credit to take another Academy course. If this path is chosen, they will be required to take and pass both semesters of the lab portion of the General Chemistry course.
  - take AP Chemistry (if concurrently enrolled in AP Calculus AB or higher)

Passing this comprehensive chemistry placement test (upon completion of the laboratory requirement), or a higher level class, will satisfy a student's survey chemistry course requirement for their Indiana Academy diploma.

### SCI03201/03202 – Chemistry I: General Chemistry 1 & 2 (DC)

\*Available for College Credit (see pg. ii)

<b>Prerequisite:</b>	Fall: Algebra I and Geometry Spring: Successful completion of first semester General Chemistry or permission of Science Division Chair.
<b>Co-requisite:</b>	Chemistry I: General Chemistry Lab (SCI3201L/3202L) and Advanced Algebra/Trigonometry 1, 2 (MAT03001/03002) or higher.
<b>Credit:</b>	1.5 credits per semester
<b>Offered:</b>	Fall/Spring Sequence

General Chemistry examines the concepts of the structure of matter, the states of matter, chemical bonding and reaction types, stoichiometry, equilibrium, acid-base theory, kinetics, thermodynamics, oxidation-reduction, and an introduction to organic chemistry. The course emphasizes chemical calculations and the mathematical formulation of principles. Laboratory work emphasizes both qualitative and quantitative experiences and introduces the use of technology in the lab.

\*Ball State University offers 3 college credit hours in CHEM 100 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SCI04204/04205 – AP Chemistry (DC)

\*Available for College Credit (see pg. ii)

<b>Prerequisite:</b>	Fall: Successful completion of two semesters (or equivalent) of General Chemistry or permission of instructor. Spring: Successful completion of first semester AP Chemistry or permission of Science Division Chair.
<b>Co-requisite:</b>	Juniors: AP Calculus/AB (MAT04123/04124) or higher or permission and AP Chemistry Lab (SCI4204L/4205L) Seniors: Pre-Calculus for AP (MAT03311/03312) or any 4000-level math course or permission and AP Chemistry Lab (SCI4204L/4205L)
<b>Credit:</b>	1.5 credits per semester
<b>Offered:</b>	Fall/Spring Sequence

Advanced Placement Chemistry is an accelerated course designed to review and extend the concepts introduced in General Chemistry, and it is comparable to a course for science majors in freshman college chemistry. Advanced laboratory work is emphasized. This course is designed for students who hope to advance place in college chemistry and/or whose career goals include science, engineering or the medical sciences. Students will prepare for and are encouraged to take the AP Chemistry exam in May.

\*Ball State University offers 4 college credit hours in CHEM 111 and 112 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

## SCIENCE: CHEMISTRY EMPHASIS (Continued)

### SCI04209 – Chemistry II: Intro to Organic & Biochemistry (DC)

\*Available for College Credit (see pg. ii)

<b>Prerequisite:</b>	General Chemistry
<b>Co-requisite:</b>	Chemistry II: Introduction to Organic and Biochemistry Lab (SCI4209L)
<b>Credit:</b>	1.5 credits
<b>Offered:</b>	Spring

In this course, the traditional aspects of organic chemistry, which include nomenclature, structure, bonding, and functional groups are examined but with emphasis on reactions and reaction pathways. The goal is to educate students to think independently about organic chemistry. Students are expected to analyze problems, sort facts, reason by analogy, and look for patterns. Laboratory work is carried out at both the micro-scale and macro-scale level. Selected topics in biochemistry will be covered, and students will be exposed to biochemical techniques in the laboratory. This course is intended for students whose college goals include biology, chemistry, or the medical sciences.

\*Ball State University offers 5 college credit hours in CHEM 103 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SCI04211 – Chemistry II: Biochemistry of the Cell (CL)

<b>Prerequisite:</b>	Chemistry II: Introduction to Organic and Biochemistry or by permission of Division Chair
<b>Co-requisite:</b>	Chemistry II: Biochemistry of the Cell Lab (SCI4211L)
<b>Credit:</b>	1.5 credits
<b>Offered:</b>	Fall

This course examines the biochemical makeup of the cell and the chemical processes that promote the functioning of the living cell. The biochemical composition of the cell, enzymes, cellular metabolism, the cytoskeleton, transport, cell movement, cellular signaling, control of the cell cycle, and cancer will be among the topics covered in the course. Laboratory experiences will illustrate common techniques utilized in biochemical analysis.

### SCI04250 – Chemistry II: Forensic Science (XC)

<b>Prerequisite:</b>	1-year course in chemistry with laboratory, trigonometry or permission of instructor
<b>Co-requisite:</b>	Chemistry II: Forensic Science Lab (SCI4250L)
<b>Credit:</b>	1.5 credits
<b>Offered:</b>	Fall

Forensic Science is a first course in the forensic application of both science and technology. Topics will be taught on a case history approach to expose students to “front-page” cases of past and present. This course will place major emphasis on exposing students to biological, chemical, and physical methods of analyzing crime scene evidence. Students will use information and evidence data from case histories and case readings, as well as the compilation of information from the internet, to explore and learn about the forensic applications of science and technology. Topics in this course will include: the history and development of forensic science, security of a crime scene and collection of physical evidence, trace evidence, fire investigations and explosives, fingerprints, firearms and tool marks, document examination, and computer forensics. This course will place a major emphasis on the newest and best methods to gather, analyze, and interpret data needed to solve all types of crimes. In addition, students will explore the disciplines of forensic science and college courses and majors necessary to obtain a career in the forensic sciences.

## SCIENCE: LIFE SCIENCE EMPHASIS

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

### SCI04301/04302 – AP Biology (DC)

\*Available for College Credit (see pg. ii)

- Prerequisite:** Fall: Successful completion of two semesters (or equivalent) of General Biology and General Chemistry or permission of instructor  
Spring: Successful completion of first semester AP Biology or permission of the Science Division Chair.
- Co-requisite:** AP Biology Lab (SCI4301L/4302L)
- Credit:** 1.5 credits per semester
- Offered:** Fall/Spring Sequence

This Advanced Placement course provides an accelerated, comprehensive, and thorough overview of the field of biology in preparation for the AP Biology exam. The course covers biological chemistry, cell biology, Mendelian genetics, evolutionary theory and principles, and an overview of the diversity, structure and ecology of organisms. Laboratory activities follow the required AP Biology lab exercises and other lab activities. Students will prepare for and are encouraged to take the AP Biology exam in May.

\*Ball State University offers 4 college credit hours in BIO 111 and 112 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SCI04304 – Biology II: Microbiology (DC)

\*Available for College Credit (see pg. ii)

- Prerequisite:** One year laboratory biology
- Co-requisite:** Biology II: Microbiology Lab (SCI4304L)
- Credit:** 1.5 credits
- Offered:** Spring

The history of bacterial discovery, the scope of bacterial effects, biotechnology, and the classification of micro-organisms are studied. The course includes the study of the structure, function, and ecology of microbes and viruses. Basic aseptic and sterile techniques for isolating, culturing, and identifying bacteria are discussed and practiced in the laboratory as a prelude to learning fundamental staining techniques, biochemical tests, etc. that are used in the identification of unknown bacteria. Some consideration is given to the medical concerns related to bacterial and viral pathogens.

\*Ball State University offers 5 college credit hours in BIO 113 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SCI04305/04306 – Biology II: Human Anatomy and Physiology (CL)

- Prerequisite:** Fall: One year biology  
Spring: Successful completion of first semester Biology II: Human Anatomy and Physiology or permission of Science Division Chair.
- Co-requisite:** Biology II: Human Anatomy and Physiology Lab (SCI4305L/4306L)
- Credit:** 1.5 credits per semester
- Offered:** Fall/Spring Sequence

Using an integrated text, this course covers material in six parts, which include: levels of organization, support and movement, control and regulation, fluids and transport, environmental exchange, and the continuity of life. Clinical topics that relate to personal and family health concerns are interwoven with a consideration of the relationship of structure to function. The concepts of anatomical and physiological processes are explored so that not only those seeking careers in the health sciences may benefit from the course, but also those interested in the mechanics of the human body are challenged.

### SCI04310 – Biology II: Zoology (CL)

- Prerequisite:** One year biology
- Co-requisite:** Biology II: Zoology Lab (SCI4310L)
- Credit:** 1.5 credits
- Offered:** Spring

Zoology is a comprehensive survey of the diversity found in Kingdom *Animalia*. This course addresses the issue of why such diversity occurs, and what factors influence and constrain it. Laboratory explorations of live and preserved specimens allow hands-on examination of the structure and behavior of animals.

## SCIENCE: LIFE SCIENCE EMPHASIS (Continued)

### SCI04317 – Biology II: Principles of Genetics and The Human Genome (CL)

**Prerequisite:** One year laboratory biology  
**Co-requisite:** Biology II: Principles of Genetics and The Human Genome Lab (SCI4317L)  
**Credit:** 1.5 credits  
**Offered:** Fall

Principles of Genetics and The Human Genome is an introductory genetics course that examines classical Mendelian genetics and modern examples as they relate to the human genome. Specific topics include Mendelian genetics, the inheritance patterns of genes, the Central Dogma, pedigree analysis, chromosomal aberrations, behavioral genetics, and genetic screening. Laboratory activities emphasize techniques used to detect and analyze genetic information.

### SCI04320 – Biology II: Molecular Genetics (CL)

**Prerequisite:** One year biology  
**Co-requisite:** Biology II: Molecular Genetics Lab (SCI4320L)  
**Credit:** 1.5 credits  
**Offered:** Fall

Molecular Genetics is an advanced Biology course emphasizing the structure of DNA and biotechnology techniques. Specific topics include the modular structure of DNA and proteins, the relationship between DNA mutations and cancer, and the molecular techniques used in forensics and biotechnology. Laboratory activities will provide students the opportunity to perform some commonly used techniques in molecular genetics.

### SCI04321 – Biology II: Field Botany (XC)

**Prerequisite:** One year biology  
**Co-requisite:** Biology II: Field Botany Lab (SCI4321L)  
**Credit:** .75 credit  
**Offered:** Quarter 1

This course will emphasize the diversity found within the plant kingdom at differing levels of the classification. Topics covered will include Plant Anatomy, Morphology, Systematics and Taxonomy. Both non-vascular and vascular plants will form the basis of our study. Laboratory explorations will be organized around the study of the structure and function of plants and the organs. This is a field course that will emphasize knowledge of the local flora as models for plant study.

### SCI04324 – Biology II: Intro to Bioethics (XC)

**Prerequisite:** One year biology  
**Credit:** .5 cr.  
**Offered:** Quarter 4

The ethical basis for the use of scientific knowledge is explored during this course. Students will explore ethical issues resulting from the application of scientific knowledge to solve problems in today's world. Our priority will be the promotion and development of informed citizens and leaders who can use scientific information to cope with science related issues. The focus of the course revolves around such issues as energy resource problems, sustainability, the bioethics of genetic engineering, medical practices and death and dying. We hope to expand students' horizons and understanding of science by exposing them to a variety of issues using selected readings. This course does not satisfy the Academy lab science requirements.

### SCI04325 – Biology II: Medical Microbiology (XC)

**Prerequisite:** One year biology  
**Co-requisite:** Medical Microbiology Lab (SCI4325L)  
**Credit:** .75 credit  
**Offered:** Quarter 3

This course will introduce the students to basic information on microorganisms, the immune system, microbial diseases and their transmission. The history of the discovery, control and treatment of major microbial diseases forms the basis of the lecture material. Students will be introduced/exposed to health related issues in pharmacology, parasitological, bacteriology, virology and epidemiology through an integrated lecture/discussion/laboratory format.

## SCIENCE: LIFE SCIENCE EMPHASIS (Continued)

### SCI04326 – Biology II: Genes, Germs and Geography (XC)

<b>Prerequisite:</b>	Proven proficiency with computer applications.
<b>Co-requisite:</b>	Biology II: Genes, Germs and Geography Lab (SCI4326L)
<b>Credit:</b>	.75 credit
<b>Offered:</b>	Quarter 4

There is an increasing awareness of the need to manage the world we live in; that there are finite resources and that humans exist within and as part of a diverse and complex ecological framework. Students will be introduced to innovative GIS technology and explore real life problems through the relationship of genetics, epidemiology and spatial thinking.

### SCI04328 – AP Environmental Science (DC)

**\*Available for College Credit (see pg. ii)**

<b>Prerequisite:</b>	One year biology
<b>Co-requisite:</b>	AP Environmental Science Lab (SCI4328L)
<b>Credit:</b>	1.5 credits
<b>Offered:</b>	Spring

The study of environmental science concerns itself with the interaction between humans and the ecosystems, in which we live and work. The course focuses on the determination of environmental quality through a series of laboratory experiences dealing with soil, water, and air resources. There is a concentration on problems having to do with population, pollution, agriculture, resource management and land use. An integrated approach to the issues facing us is emphasized. Students will prepare for and are encouraged to take the AP Environmental Science exam in May.

\*Ball State University offers 3 college credit hours in NREM 101 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### RES6000 – AP Research I: Biochemistry, Biotechnology, and Biomedical Sciences (XC)

<b>Prerequisite:</b>	AP Seminar II
<b>Credit:</b>	1 credit
<b>Offered:</b>	Fall/Spring Sequence

In the AP Research course, students further their skills acquired in the AP Seminar course by understanding research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question in biochemistry, biomedical or molecular biology. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of approximately 4,000-5,000 words (accompanied by a performance or exhibition of product where applicable) and a presentation with an oral defense and poster presentation.

### RES6100 – AP Research II: Biochemistry, Biotechnology, and Biomedical Sciences (XC)

<b>Prerequisite:</b>	AP Research I
<b>Credit:</b>	1 credit
<b>Offered:</b>	Spring

In the AP Research course, students further their skills acquired in the AP Seminar course by understanding research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question in biochemistry, biomedical or molecular biology. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of approximately 4,000-5,000 words (accompanied by a performance or exhibition of product where applicable) and a presentation with an oral defense and poster presentation.

## SCIENCE: EARTH AND SPACE SCIENCE EMPHASIS

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

### SCI04406 – Earth and Space Science: The Solar System (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** None  
**Co-requisite:** Earth and Space Science: The Solar System Lab (SCI4406L)  
**Credit:** 1.5 credits  
**Offered:** Fall

This course is a survey of the solar system based on modern data obtained from NASA and ESA probes. Students are introduced to the basic concepts of planetary science. These concepts include elements of geology and meteorology. The planets, their satellites, and the sun are examined in detail from a planetary science point of view. Other solar system objects such as asteroids and comets are examined as a class. In addition the general motions of bodies in the solar system are examined.

\*Ball State University offers 3 college credit hours in ASTRO 100 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### SCI04407 – Earth and Space Science: Galactic Astronomy (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** Algebra I  
**Co-requisite:** Earth and Space Science: Galactic Astronomy Lab (SCI4407L)  
**Credit:** 1.5 credits  
**Offered:** Spring

This course introduces students to modern astronomy, its historical roots, and its place as a branch of modern physics. Physics topics include gravitation and the motion of celestial bodies, the relation of electromagnetism to light and thermodynamics and their application to astronomy, modern telescopes and their historical roots. Other topics include the structure of the sun and stars, binary stars, the distance to stars, the birth life and death of stars, neutron stars, black holes, the Milky Way, other galaxies, cosmology and the "Big Bang" theory.

\*Ball State University offers 3 college credit hours in ASTRO 120 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

**Ball state courses such as the following may be taken on a space-available basis. The academy is not responsible for fees associated with these courses.**

**GEOL 101 Introduction of Geology**

**GEOL 102 Historical Geology**

**GEOL 206 Oceans and Nations**

**GEOL 207 Environmental Geology**

**GEOL 220 Mineralogy**

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

**Enrollment into Burris classes (BUR prefix) is subject to space availability. Burris courses meet five days a week and could conflict with other Academy choices.**

## FAR05110 – Social History of Art (CL)

**Prerequisite:** Not open to students with credit in History through Art and Architecture  
**Credit:** 1 credit in Fine Arts  
**Offered:** Fall

An introduction to the history of art and architecture, with a deliberate exposure to both pre-modern and non-Western cultures. Topics and regions covered may include prehistoric and primitive art, a survey of Western art traditions and ideas from Greco-Roman times to the present, and comparative treatments of the independent artistic perspectives of Africa, India, East Asia, and the Americas. There will be a significant independent research component, with individual students “curating” a proposed gallery show as their final project.

## BURA0101 – Introduction to Two-Dimensional Art (CP)

**Prerequisite:** None  
**Credit:** 1 credit in Fine Arts  
**Offered:** Fall or Spring

Students taking Introduction to Two Dimensional Art will be using a variety of different projects utilizing the different media that will be used to demonstrate the importance of proper use of the elements and principles of design. The students will be engaged in sequential learning experiences that encompass art history, art criticism, aesthetics, and production and lead to the creation of portfolio-quality works. Students will create works of art, analyze their experiences, learn about historical and interdisciplinary connections, write critical assignments, make presentations that require them to use the art vocabulary, and explore career options in visual art. Students will also learn to use technology to develop ideas gather information, and use for presentations.

## BURA0105 – Ceramics (CP)

**Prerequisite:** Introduction to Two-Dimensional Art (BURA0101)  
**Credit:** 1 credit in Fine Arts  
**Offered:** Fall

The ceramics students will be introduced to different hand-building methods of pottery, such as coil, slab, pinch, drape, plus the opportunity to throw on the potter’s wheel. They will engage in sequential learning experiences that encompass art history, art criticism, aesthetics and production and lead the creation of portfolio-quality works. Students will reflect on multicultural ceramics and historical connections, (2) write about the process and self-assessment, (3) make presentations and (4) work individually and in groups and (5) explore career opportunities. Trips to museums, galleries, studios and community resources are utilized.

## BURA0106 – Sculpture (CP)

**Prerequisite:** Introduction to Two- and Three-Dimensional Art  
**Credit:** 1 credit in Fine Arts  
**Offered:** Spring

The sculpture students will be introduced to different sculptural techniques, such as construction, assemblage, carving, modeling and casting. They will engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production and lead the creation of portfolio-quality works. Students will (1) reflect on multicultural sculpture and historical connections, (2) write about the process and self-assessment, (3) make presentations, and (4) work individually and in groups and (5) explore career opportunities. Trips to museums, galleries, studios and community resources are utilized.

### BURA0107 – Drawing (CP)

**Prerequisite:** Introduction to Two-Dimensional Art (BURA0101)  
**Credit:** 1 credit in Fine Arts  
**Offered:** Fall

The drawing students will be introduced to different processes such as sketching, rendering, contour, gesture, and perspective drawing. They will engage in sequential learning experiences that encompass art history, art criticism, aesthetics and production and lead the creation of portfolio-quality works. Students will reflect on multicultural and other disciplines and historical connections, (2) write about the process and self assessment (3) makes presentations and (4) work individually and in groups and (5) explore career opportunities. Trips to museums, galleries, studios and community resources are utilized.

### BURA0108 – Painting (CP)

**Prerequisite:** None  
**Credit:** 1 credit in Fine Arts  
**Offered:** Fall

The painting students will be introduced to different methods of painting, such as oil, acrylic, watercolor, oil pastels and mixed media. They will engage in sequential learning experiences that encompass art history, art criticism, aesthetics and production and lead the creation of portfolio quality works. Students will reflect on historical connections, (2) write about the process and self assessment (3) make presentations and (4) work individually and in groups and (5) explore career opportunities as they create abstract and realistic paintings. Trips to museums, galleries, studios and community resources are utilized.

### BURA0109 – Printmaking (CP)

**Prerequisite:** Drawing or Introduction to Two- and Three-Dimensional Art  
**Credit:** 1 credit in Fine Arts  
**Offered:** Spring

The students are introduced to different printing methods such as relief, woodcut, etchings, silkscreen, calligraphic, and embossment. They engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production and lead the creation of portfolio quality works. Students (1) reflect on multicultural and other disciplines and historical connections, (2) write about the process and self-assessment, (3) make presentations, and (4) work individually and in groups and (5) explore career opportunities. Trips to museums, galleries, studios and community resources are utilized.

### BURA0110 – Fiber Arts (CP)

**Prerequisite:** Drawing or Introduction to Two- and Three-Dimensional Art  
**Credit:** 1 credit in Fine Arts  
**Offered:** Spring

Students create fiber art works utilizing processes such as loom and off-loom construction, dyeing/tying fabric, stitchery, and batik. Students additionally: (1) reflect upon the outcome of these experiences, (2) explore historical connections, (3) write about the process, (4) make presentations about their progress at regular intervals, (5) work individually and in groups, (6) find direct correlation to the other disciplines, and (7) explore career options related to jewelry design. Art museums, galleries, studios and community resources are utilized.

### BURA0111 – Jewelry (CP)

**Prerequisite:** Completion of Introduction to Two-Dimensional Art or Drawing  
**Credit:** 1 credit in Fine Arts  
**Offered:** Spring

Students create works of jewelry design and fabrication techniques including, sawing, piercing, filing, soldering, bead making, macramé, papier-mâché, wire and bead, copper enameling and ceramics. Students additionally: (1) reflect upon the outcome of these experiences, (2) explore historical connections, (3) write about the process, (4) make presentations about their progress at regular intervals, (5) work individually and in groups, (6) find direct correlation to other disciplines, and (7) explore career options related to jewelry design. Art museums, galleries, studios and community resources are utilized.



CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

## BURJ0101 – Journalism (CP)

**Prerequisite:** None  
**Credit:** 1 credit in elective studies  
**Duration:** Spring

This one-semester course includes the process involved in the art of journalism and the profession of journalists. Topics covered include, but are not limited to, (1) news gathering, (2) reporting and writing news stories, (3) the legal and social responsibilities involved in newspaper publications, and (4) the ethics of accurate and fair reporting. Advertising design and sales, page layout and design and yearbook techniques will also be covered. Students will use computers and current desktop publishing software to produce journalistic products. Students enrolling must have solid English language skills.

## J101 – Publications (CP)

**Prerequisite:** None  
**Credit:** 1 credit per semester in elective studies  
**Offered:** Fall and/or Spring

This course provides the study and practice in gathering and analyzing information, interviewing and note taking for the purpose of writing, editing, and publishing; the gathering, editing and preparation of digital images; and the design and preparation of page layouts for high school yearbook.

This course will also provide the study of—and practice in—gathering and analyzing information, interviewing, and note taking for the purpose of: (1) writing, (2) editing, (3) publishing for high school newspaper.

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

## ACADBAND – Advanced Band (CP)

**Prerequisite:** None  
**Offered:** Fall/Spring Sequence

This is a performing organization for woodwinds, brass, and percussion in which students develop increasing performance skills individually and in ensemble with emphasis on the stylistic characteristics of the music studied. Full year enrollment is required for those students who desire to participate in any ISSMA or other state music events.

## BUSTRING – Advanced Orchestra (Strings Only) (CP)

**Prerequisite:** Middle School Orchestra or interview/audition with the instructor  
**Offered:** Fall/Spring Sequence

Advanced Orchestra is offered as a continuation for students with previous orchestral experience. Educational emphasis is placed on the advancement of instrumental technique, further development of music reading and comprehension skills, independent musicianship, style, and a deeper understanding of small group ensemble music, and orchestral literature. Literature will contain both Classical and Popular music. Students perform both in small group ensemble projects and as a large group. Participation in all scheduled concerts and performances is mandatory. Full year enrollment is required for those students wishing to participate in ISSMA events, All-State Orchestra, and youth orchestras. Students will be required to spend time outside the normal school day and on weekends to fulfill the requirements for credit for this class. Students are encouraged to take private lessons and participate in outside performing groups.

## BURCHOIR – Advanced Choir (CP)

**Prerequisite:** None  
**Offered:** Fall/Spring Sequence

The purpose of the high school choir is to provide students with the opportunity to sing vocally in a group and to improve their singing ability. Emphasis is placed on correct singing techniques, vocal blend, and learning to read music. National standards are incorporated into the course to develop comprehensive musicianship. The choir performs all styles of music, from classical music to jazz, and has three or four performances a year. Students are required to participate in all concerts and performances. Full year enrollment is required for those students wishing to participate in ISSMA or other state music events.

# INTERDISCIPLINARY STUDIES

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

## BUSINESS

### BUS0110 – Personal Finance (DC)

\*Available for College Credit (see pg. ii)

**Prerequisite:** None  
**Credit:** 1 credit  
**Offered:** Spring

The fundamental principles of general business and related economic concepts are considered from the consumer's point of view. General fundamental principles of business, consumer buying, use of credit, banking, insurance, investments, tax concepts, and budgeting will be introduced.

\*Ball State University offers 3 college credit hours in FIN 110 to students who complete this course. Refer to the Dual Credit section on the Academy Website for details on enrollment and fees.

### J101 – Publications (CP)

**Prerequisite:** None  
**Credit:** 1 credit per semester in elective studies  
**Offered:** Fall and/or Spring

This course provides the study and practice in gathering and analyzing information, interviewing and note taking for the purpose of writing, editing, and publishing; the gathering, editing and preparation of digital images; and the design and preparation of page layouts for high school yearbook.

This course will also provide the study of—and practice in—gathering and analyzing information, interviewing, and note taking for the purpose of: (1) writing, (2) editing, (3) publishing for high school newspaper.

## COLLOQUIUM

### COL03900 – Junior Colloquium (CL)

**Prerequisite:** None  
**Credit:** .5 credit in Junior Colloquium  
**Offered:** Fall

This is a discussion-oriented seminar and is required for all juniors (residential, international, & NECP). Students participate in a variety of experiences: small group seminars, large group lectures, large group outings, and medium group simulations as a part of this interdisciplinary series. All students will do a variety of readings on many different content areas as part of this experience.

### COL04500 – Senior Colloquium: Topics and Perspective in Economics (CL)

**Prerequisite:** Junior Colloquium (COL3900)  
**Credit:** 1 credit in Social Studies (Economics) as well as completion of the Senior Colloquium graduation requirement  
**Offered:** Spring

Senior Colloquium introduces students to important topics in economics from the perspective of the citizen, the consumer, and the worker as well as that of the entrepreneur, the investor, and the state. Topics will include markets and market-based economic principles, such as supply and demand, prices, and profits, but also exposure to cutting-edge research in behavioral economic and other emerging subfields. This is a blended class experience combining weekly classroom discussion sessions with individual online exercises and group activities including guest presentations, film showings, simulation exercises and more.

### COL05000 – AP Seminar I: Biochemistry, Biotechnology, and Biomedical Sciences (CL)

**Prerequisite:** One year of laboratory Biology and permission of the Science Division Chair  
**Credit:** 1 credit in Colloquium  
**Offered:** Fall

AP Seminar I is a foundational course for the Institute for Biochemistry, Biotechnology, and Biomedical Sciences that engages students in conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework, students practice reading and analyzing articles and research studies. Students learn to synthesize information from multiple sources, develop their own perspectives in research-based written essays, and design and deliver oral and visual presentations, both individually and as part of a team.

## INTERDISCIPLINARY STUDIES (Continued)

### COL05100 – AP Seminar II: Biochemistry, Biotechnology, and Biomedical Sciences (CL)

**Prerequisite:** AP Seminar I  
**Credit:** 1 credit in Colloquium  
**Offered:** Spring

AP Seminar II is a foundational course for the Institute for Biochemistry, Biotechnology, and Biomedical Sciences and continuation of the AP Seminar I course. Students identify a research question of their own based on the source material provided by the College Board in order to develop a logical, well-reasoned argument. In addition, this course focuses on honing the skills learned in Seminar I in preparation for the end-of-course examination administered by the College Board.

## RESEARCH

### RES3100H – Research in Humanities (XC)

**Prerequisite:** None  
**Credit:** 1 credit in Academy Research  
**Offered:** Juniors, Fall or Spring, Seniors enroll Fall

In this course the principles of research as they pertain to the humanities are emphasized. The students learn methods of topic selection, use of primary and secondary sources, and the correct writing of a scholarly paper. The goal of the class and the end product is to produce a scholarly project based on some level of original research. This course can be taken in either semester of the junior year or the fall semester of the senior year.

### RES3000S – Research in the Sciences (XC)

**Prerequisite:** None  
**Credit:** 1 credit in Academy Research  
**Offered:** Fall or Spring

This course is offered first or second semester of the junior or senior year. The student is expected to develop a grant proposal for an original study in the sciences. The proposal will be presented as a written document and as an oral presentation. Students are encouraged to continue their work as an actual project by enrolling in RES3911S and presenting their work at a science fair or other appropriate venue.

### RES6000 – AP Research I: Biochemistry, Biotechnology, and Biomedical Sciences (XC)

**Prerequisite:** AP Seminar II  
**Credit:** 1 credit  
**Offered:** Fall

In the AP Research course, students further their skills acquired in the AP Seminar course by understanding research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question in biochemistry, biomedical or molecular biology. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of approximately 4,000-5,000 words (accompanied by a performance or exhibition of product where applicable) and a presentation with an oral defense and poster presentation.

### RES6100 – AP Research II: Biochemistry, Biotechnology, and Biomedical Sciences (XC)

**Prerequisite:** AP Research I  
**Credit:** 1 credit  
**Offered:** Spring

In the AP Research course, students further their skills acquired in the AP Seminar course by understanding research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question in biochemistry, biomedical or molecular biology. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of approximately 4,000-5,000 words (accompanied by a performance or exhibition of product where applicable) and a presentation with an oral defense and poster presentation.

## INDIVIDUAL STUDY

CL College Level

CP College Prep

DC Dual Credit

XC Exploratory Course

### INTERNSHIPS

The internship program allows students to explore a career interest by working with a professional for a short period of time. The emphasis is on a work experience that enables students to learn about a potential career choice. Students may schedule four or eight hours per week in the Internship program. Students can earn one half credit per semester (4 hrs./week) or one credit per semester (8hrs./week). For further information, please contact Mr. Aaron Lake.

### DIRECTED STUDY

Through a Directed Study, students form linkages with instructors who have expertise in an area of interest for them that cannot be acquired through the Academy curriculum. If students are interested in pursuing a Directed Study, they should first contact the particular instructor with whom they wish to study to determine if the instructor is willing. If the instructor agrees to the Directed Study, then the instructor and the student must complete the Directed Study Proposal form on the Indiana Academy website at [academy.bsu.edu/forms](https://academy.bsu.edu/forms). No student may take a Directed Study if their need may be met through an Indiana Academy course offering unless an explicit need or conflict can be demonstrated. Students wishing to enroll in a Directed Study must be at least a second semester junior. The Directed Study must be approved by the instructor, Division Chair, and Director of Academic Affairs. This approval process automatically occurs once the proposal is submitted online.