

Advanced Placement Course Credit Alignment Recommendations May 25th, 2010

ORC 3333.163 Standards for college credit based on advanced placement test scores.

Changes in 2010:

- The Computer Science AB, French Literature, Italian Language and Literature, and Latin Literature are no longer offered. Students who have taken these tests previously should still receive the recommended credit awards.
- The Computer Science A course was revised. See the test description for changes.
- Calculus AB and BC recommendations have been changed to include the newly revised Transfer Module Articulation Numbers for Calculus I & II – TMM005 and TMM006, or TMM017 Calculus
- English Language and English Literature recommendations have been updated to include revised Transfer Module Articulation Number for English Composition - First Writing Course (TME001).

Introduction

In 2007, the State of Ohio Legislature passed legislation mandating the Board of Regents to recommend and the Chancellor to adopt standards for each state institution of higher education to utilize in awarding credit to any student enrolled who has attained a passing score on an advanced placement (AP) examination.

This document contains recommendations for course or sequence matches to every AP examination offered in the 2008-2009 academic year. Institutions should match the most appropriate course or sequence to the recommended match provided. Full details of the AP examinations, including learning outcomes, course content and sample test questions can be found here:

<http://www.collegeboard.com/student/testing/ap/subjects.html>.

It is the expectation that these recommendations be followed to ensure the equity of credit for the score of 3 on Advanced Placement examinations within the University System of Ohio.

The College Board Advanced Placement Policy directs Ohio public colleges and universities to grant credit to enrolled students who received a score of 3 or higher on Advanced Placement (AP) examinations. This credit should be matched to an appropriate general education course offered at the institution when possible and fulfill any degree requirements that course would fulfill.

In instances where an institution does not have an appropriate course and/or sequence match to an AP examination, a recommended range of OTM area credit or elective credit hours has been provided. This credit should be applied where such

credit/course options exist within the Associate or Baccalaureate degree requirements. The exact number of hours awarded should reflect that of similar courses or sequences at that institution.

Several Advanced Placement examinations have been assigned recommendations aligned to Ohio Articulation Numbers (OANs). If an institution's OAN match does not fall within the General Education Curriculum, and the test is in a transfer module subject area, a student should receive either the TAG match or the OTM match as appropriate for a student's major. This credit should be reevaluated if a student transfers into a major related to that OAN later in his or her study. In summary, with this provision, a student whose path to degree completion would not be advanced by receiving the OAN match for an AP examination should receive the OTM match instead.

In subject areas that do not fit within the transfer module, such as Computer Science or Studio Art, if a course matched to an AP examination would in no way advance a student's progress towards degree completion due to their major, that student may be awarded general elective credit instead where such credit/course options exist within the Associate or Baccalaureate degree requirements. This credit should be reevaluated if a student transfers into a different major later in his or her study.

Another point of clarification involves incomplete course alignment with an Advanced Placement examination. In these situations, if an institution only has a part of a recommended match, OTM area credit or elective credit hours should be awarded to make up the difference in hours.

These recommendations are only for the score of 3. Scores of 4 and 5 may be awarded additional credit hours and/or more advanced courses at the institution's discretion.

In test areas such as foreign language and mathematics, students may be placed in courses at a more advanced level than the courses for which credit hours are awarded, at the institution's discretion.

In accordance with the advanced placement policy, "When it clearly enhances the opportunity for student success, an institution should strongly advise that an AP score of at least 4 is needed for a student to be successful in a second course in a highly dependent sequence of courses in a STEM area. For example, an advisor should strongly recommend that an AP score of at least a 4 is needed on the AP Chemistry exam in order for the student to be successful in the second course in Chemistry." If a student agrees to follow this recommendation from an academic advisor, he/she should be awarded appropriate area credit in lieu of the recommended AP course credit.

Timeline

The policy will be fully implemented by fall 2009 and will be applied to students who enroll at a Public Institution of Higher Education in the fall of 2009 or later and have not had their AP scores previously evaluated for college credit. The new policy will be

communicated to prospective students and to other key stakeholders during the 2008-2009 academic year.

The College Board has indicated that Computer Science AB, French Literature, Italian Language and Culture, and Latin Literature will be discontinued in May 2009. The recommendations for those tests will still apply to students enrolling in a Public Institution of Higher Education who have already taken the tests.

Recommendations

Suggested credit hour range and course type alignment for statewide AP college course and credit award for compliance with provisions of Ohio Revised Code 3333.163

1. AP Exam Area - Art History, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3-4
If no match: OTM Arts and Humanities Area Credit	Quarter	3-5
	Semester	3-4

Recommended Match:

An introductory college **course** in art history. In the course, students examine major forms of artistic expression from the ancient world to the present and from a variety of cultures. They learn to look at and analyze works of art within their historical context, and to articulate what they see or experience in a meaningful way. A meaningful way to experience works of art is learning to frame an understanding that relates how and why works of art communicate visual meaning.

2. AP Exam Area - Biology, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	4-5
If no match: OTM Natural Science Area Credit	Quarter	3-5
	Semester	4-5

Should match to an Ohio Transfer Module General Biology course.

Recommended Match:

An introductory college **course** in Biology. The textbooks used for AP Biology are those used by college biology majors, and the labs done by the students must be the equivalent of those done by college students.

3. AP Exam Area - Calculus AB, Score 3

Credit Hour Recommendation	Quarter*	3-5
	Semester	4-5
If no match: OTM Mathematics Area Credit	Quarter*	3-5
	Semester	4-5

Recommended Ohio Articulation Number Course Match-OMT005 Calculus 1 (Semester Only) or TMM005 Calculus I

***For quarter schools, this match should include at least one course in the OAN match.**

Recommended Match:

The initial college-level Calculus **course** normally taken as the first course in a multi-course calculus sequence covering topics in differential and integral calculus.

4. AP Exam Area - Calculus BC, Score 3

Credit Hour Recommendation	Quarter	10-15
	Semester	8-10
If no match: OTM Mathematics Area Credit	Quarter	10-15
	Semester	8-10

Recommended Match:

For semester institutions: Recommended Ohio Articulation Number Course Match-OMT 005 plus one semester of area Math credit worth the second semester of calculus, or Transfer Module Articulation number TMM005 (Calculus I) and TMM006 (Calculus II) or TMM017 (Calculus I & II sequence). When available, student can take a placement exam for placement out of OMT 006 or a proficiency exam for course credit for OMT 006.

For quarter institutions: Recommended Ohio Articulation Number Course Match-OMT 005 (usually this is a two quarter course) plus one quarter of area Math credit worth the third quarter of calculus (or worth the second quarter of calculus if the institution does not offer the third quarter of calculus). When available, student can take a placement exam for placement out of OMT 006 or a proficiency exam for course credit for OMT 006.

Another way of understanding the amount of area Math credit to award is to subtract the amount of credit awarded for OMT 005 from the amount of credit awarded for the first-year Calculus Sequence.

Note that these recommendations are different than those for AP Exam Area- Calculus AB, Score 3 which covers only the first Calculus course.

5. AP Exam Area - Chemistry, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	4-5
If no match: OTM Natural Science Area Credit	Quarter	3-5
	Semester	4-5

Should be matched to an Ohio Transfer Module General Chemistry course.

Recommended Match:

An initial **course** in general chemistry normally taken as the first course in a multi-course general chemistry sequence covering topics. Students attain a depth of understanding of fundamentals and a reasonable competence in dealing with chemical problems.

6. AP Exam Area - Chinese Language and Culture, Score 3

Credit Hour Recommendation	Quarter	9-15
	Semester	6-10
If no match: General Elective Credit*	Quarter	9-15
	Semester	6-10

Recommended Match:

The complete beginning **sequence** (2 semesters/3-4 quarters), the equivalent of the first-year, in the study of the Chinese language. These courses should emphasize the use of language for active communication and help students develop the ability to understand spoken Chinese in various contexts, and a Chinese vocabulary sufficiently ample for reading, newspaper and magazine articles, literary texts, and other non-technical writings without dependence on a dictionary and the ability to express themselves coherently, resourcefully, and with reasonable fluency and accuracy in both written and spoken Chinese.

***Chinese Language and Culture not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence of a foreign language that is offered.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of hours within this range should be determined by how the institution awards credit for a typical year-long sequence.

7. AP Exam Area - Comparative Government and Politics, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3
If no match: OTM Social Science Area Credit	Quarter	3-5
	Semester	3

Recommended Ohio Articulation Number Course Match-OSS013 Comparative Governments

Recommended Match:

An introductory **course** in Political Science covering the fundamental concepts used by political scientists to study the processes and outcomes of politics in a variety of country settings.

8. AP Exam Area - Computer Science A, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3-4
If no match: General Elective Credit	Quarter	3-5
	Semester	3-4

Recommended Match:

An initial **course** in Computer Science with an emphasis on object-oriented programming methodology, problem solving and algorithm development with some study of data structures and abstraction.

For the 2010 test, the following changes were made:

- Addition of two-dimensional arrays to list of standard data structures (see Topic Outline, page 8)

- Addition of java.util.List interface to Java A subset (see Java subset, Appendix A)
- Addition of Java constants Integer.MIN_VALUE and Integer.MAX_VALUE (see Java subset, Appendix A)
- Addition of static variables (also know as class variables) (see Java subset, Appendix A)

Can match to an introductory computer programming class for non-majors.

9. AP Exam Area - Computer Science A/B, Score 3 *(Discontinued in 2009)

Credit Hour Recommendation	Quarter	3-5
	Semester	3-4
If no match: General Elective Credit	Quarter	3-5
	Semester	3-4

Recommended Match:

An initial **course** in Computer Science with an emphasis on object-oriented programming methodology, problem solving and algorithm development with some study of data structures and abstraction. Computer Science A/B provides a more formal and a more in-depth study of algorithms, data structures, and data abstraction. The use of recursive data structures and dynamically allocated structures is fundamental.

Can match to an introductory computer programming class for non-majors.

10. AP Exam Area - English Language, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3-4
If no match: OTM English Composition Credit	Quarter	3-5
	Semester	3-4

Recommended Transfer Module Articulation Number Match-TME001 – English Composition: First Writing Course.

An initial college-level English Composition **course** normally taken in the first year. This differs from the College Board’s recommendation for a year-long sequence. The course should assist students to become skilled readers of prose written in a variety of rhetorical contexts and to become skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer’s purposes, audience expectations, and subjects as well as the way generic conventions and the resources of language contribute to effectiveness in writing.

11. AP Exam Area - English Literature, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3-4
If no match: OTM English Composition Credit	Quarter	3-5
	Semester	3-4

Recommended Transfer Module Articulation Number Match-TME001 – English Composition: First Writing Course.

An initial college-level English Composition **course** normally taken in the first year. This differs from the College Board’s recommendation for a year-long sequence. The course should assist students to become skilled readers of prose written in a variety of rhetorical contexts and to become skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer's purposes, audience expectations, and subjects as well as the way generic conventions and the resources of language contribute to effectiveness in writing.

If credit has already been awarded for English Composition through the AP English Language exam, an appropriate English Literature course or Arts and Humanities Area Credit should be given instead.

12. AP Exam Area - Environmental Science, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3-4
If no match: OTM Natural Science Area Credit	Quarter	3-5
	Semester	3-4

Recommended Match:

An introductory **course** in Environmental Science or Environmental Geology covering the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. Environmental science is interdisciplinary; it embraces a wide variety of topics from different areas of study.

13. AP Exam Area - European History, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3-4
If no match: OTM Arts and Humanities OR OTM Social Sciences Area credit	Quarter	3-5
	Semester	3-4

Recommended Match:

The introductory **course** (1 semesters/1-2 quarters) in European History. The study of European history since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which they live. Students should also develop (a) an understanding of some of the principal themes in modern European History, (b) an ability to analyze historical evidence and historical interpretation, and (c) an ability to express historical understanding in writing. If matched to a Western Civilization course, please ensure that the time period covered matches to the time period of this test.

14. AP Exam Area - French Language, Score 3

Credit Hour Recommendation	Quarter	9-15
	Semester	6-10
If no match:	Quarter	9-15

General Elective Credit*	Semester	6-10
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Recommended Match:

The complete beginning **sequence** (2 semesters/3-4 quarters), the equivalent of the first-year, in the study of the French language. These courses should emphasize the use of language for active communication and help students develop the ability to understand spoken French in various contexts, a and French vocabulary sufficiently ample for reading, newspaper and magazine articles, literary texts, and other non-technical writings without dependence on a dictionary and the ability to express themselves coherently, resourcefully, and with reasonable fluency and accuracy in both written and spoken French.

***French Language not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence of a foreign language that is offered.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of hours within this range should be determined by how the institution awards credit for a typical year-long sequence.

15. AP Exam Area - French Literature, Score 3

***(Discontinued in 2009)**

Credit Hour Recommendation	Quarter	12-20
	Semester	9-15
If no match: General Elective Credit*	Quarter	12-20
	Semester	9-15
OR: General Elective Credit* AND OTM Arts and Humanities Area Credit*	Quarter	9-15
	Semester	6-10
	Quarter	3-5
	Semester	3-5

Recommended Match:

The complete beginning **sequence** (2 semesters/3-4 quarters), the equivalent of the first-year, in the study of the French language and at least the first course in the intermediate or second-year sequence. These courses introduce students with advanced language skills to the formal study of a representative body of literary texts in French.

***French Language not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence and at least the first course in the intermediate (second-year) sequence of a foreign language that is offered. As an alternative, general elective credit may be awarded for the beginning, or first-year sequence, and OTM Arts and Humanities area credit may replace the credit for the first course in the intermediate (second-year) sequence.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of credits within this range should be determined by how the institution awards credit for a typical year-long sequence, plus an additional course.

Special Note: If a student enters with credit for both French Language and French Literature, the complete beginning (first-year) sequence of French language and at least the first course in the intermediate (second-year) sequence should be awarded.

16. AP Exam Area - German Language, Score 3

Credit Hour Recommendation	Quarter	9-15
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	Semester	6-10
If no match: General Elective Credit*	Quarter	9-15
	Semester	6-10

Recommended Match:

The complete beginning **sequence** (2 Semesters/3-4 quarters), the equivalent of the first-year, in the study of the German language. These courses should emphasize the use of language for active communication and help students develop the ability to understand spoken German in various contexts, and a German vocabulary sufficiently ample for reading, newspaper and magazine articles, literary texts, and other non-technical writings without dependence on a dictionary and the ability to express themselves coherently, resourcefully, and with reasonable fluency and accuracy in both written and spoken German.

***German Language and Culture not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence of a foreign language that is offered.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of hours within this range should be determined by how the institution awards credit for a typical year-long sequence.

17. AP Exam Area - Human Geography, Score 3

Credit Hour Recommendation	Quarter	3-4
	Semester	3
If no match: OTM Social Science Area Credit	Quarter	3-4
	Semester	3

Recommended Ohio Articulation Number Course Match-OSS007 Human Geography/Cultural Geography

Recommended Match:

An introductory **course** in the study of Human or Cultural Geography. The course will cover a systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students employ spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They also learn about the methods and tools geographers use in their science and practice.

18. AP Exam Area - Italian Language and Culture, Score 3 *(Discontinued in 2009)

Credit Hour Recommendation	Quarter	9-15
	Semester	6-10
If no match: General Elective Credit*	Quarter	9-15
	Semester	6-10

Recommended Match:

The complete beginning **sequence** (2 Semesters/3-4 quarters), the equivalent of the first-year, in the study of the Italian language. These courses should emphasize the use of language for active communication and help students develop the ability to understand spoken Italian in various contexts, and an Italian vocabulary sufficiently ample for reading, newspaper and magazine articles, literary texts, and other non-technical writings without dependence on a dictionary and the ability to express

themselves coherently, resourcefully, and with reasonable fluency and accuracy in both written and spoken Italian.

***Italian Language and Culture not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence of a foreign language that is offered.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of hours within this range should be determined by how the institution awards credit for a typical year-long sequence.

19. AP Exam Area - Japanese Language and Culture, Score 3

Credit Hour Recommendation	Quarter	9-15
	Semester	6-10
If no match: General Elective Credit*	Quarter	9-15
	Semester	6-10

Recommended Match:

The complete beginning **sequence** (2 semesters/3-4 quarters), the equivalent of the first-year, in the study of the Japanese language. These courses should emphasize the use of language for active communication and help students develop the ability to understand spoken Japanese in various contexts, and a Japanese vocabulary sufficiently ample for reading, newspaper and magazine articles, literary texts, and other non-technical writings without dependence on a dictionary and the ability to express themselves coherently, resourcefully, and with reasonable fluency and accuracy in both written and spoken Japanese

***Japanese Language and Culture not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence of a foreign language that is offered.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of hours within this range should be determined by how the institution awards credit for a typical year-long sequence.

20. AP Exam Area - Latin Literature, Score 3 *(Discontinued in 2009)

Credit Hour Recommendation	Quarter	9-15
	Semester	6-10
If no match: General Elective Credit*	Quarter	9-15
	Semester	6-10

Recommended Match:

The complete beginning **sequence** (2 semesters/3-4 quarters), the equivalent of the first-year, in the study of the Latin language and literature. These courses should provide students with the background to write a literal English translation of a Latin passage; to explicate specific words or phrases in context; to identify the context and significance of short excerpts from texts listed in the chosen syllabus; to identify and analyze characteristic or noteworthy features of the authors' modes of expression, including their use of imagery, figures of speech, sound effects, and metrical effects (in poetry only), as seen in specific passages; to discuss particular motifs or general themes not only suggested by passages but also relevant to other selections; to analyze and discuss structure and demonstrate an awareness of the features used in the construction of a poem or an argument; and to scan selected meters.

***Latin Literature not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence of a foreign language that is offered.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of hours within this range should be determined by how the institution awards credit for a typical year-long sequence.

21. AP Exam Area - Latin: Vergil, Score 3

Credit Hour Recommendation	Quarter	9-15
	Semester	6-10
If no match: General Elective Credit*	Quarter	9-15
	Semester	6-10

Recommended Match:

The complete beginning **sequence** (2 semesters/3-4 quarters), the equivalent of the first-year, in the study of the Latin language and literature. These courses should provide students with the background to write a literal English translation of a Latin passage; to explicate specific words or phrases in context; to identify the context and significance of short excerpts from texts listed in the chosen syllabus; to identify and analyze characteristic or noteworthy features of the author's modes of expression, including the use of imagery, figures of speech, sound effects, and metrical effects (in poetry only), as seen in specific passages; to discuss particular motifs or general themes not only suggested by passages but also relevant to other selections; to analyze and discuss structure and demonstrate an awareness of the features used in the construction of a poem or an argument; and to scan selected meters.

***Latin: Vergil not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence of a foreign language that is offered.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of hours within this range should be determined by how the institution awards credit for a typical year-long sequence.

22. AP Exam Area - Macroeconomics, Score 3

Credit Hour Recommendation	Quarter	3-4
	Semester	3
If no match: OTM Social Science Area Credit	Quarter	3-4
	Semester	3

Recommended Ohio Articulation Number Course Match-OSS005 Macroeconomics

Recommended Match:

An introductory **course** in the study of Macroeconomics. The course should provide students with a thorough understanding of the principles of economics that apply to an economic system as a whole. Such a course will emphasize the study of national income and price determination and also familiarize students with economic performance measures, economic growth, and international economics.

23. AP Exam Area - Microeconomics, Score 3

Credit Hour Recommendation	Quarter	3-4
	Semester	3
If no match: OTM Social Science Area Credit	Quarter	3-4
	Semester	3

Recommended Ohio Articulation Number Course Match-OSS004 Microeconomics

Recommended Match:

An introductory **course** in the study of Microeconomics. The course should provide students with a thorough understanding of the principles of economics that apply to the functions of individual decision makers, both consumers and producers, within the larger economic system. It places primary emphasis on the nature and functions of product markets, and includes the study of factor markets and of the role of government in promoting greater efficiency and equity in the economy.

24. AP Exam Area - Music Theory, Score 3

Credit Hour Recommendation	Quarter	2-5
	Semester	2-4
If no match: General Elective Credit	Quarter	2-5
	Semester	2-4

Recommended Match:

A beginning **course** in Music Theory. These courses should emphasize a student's ability to read and write musical notation. It is also assumed that the student has acquired (or is acquiring) at least basic performance skills in voice or on an instrument. The ultimate goal of this sequence is to develop a student's ability to recognize, understand, and describe the basic materials and processes of music that are heard or presented in a score. This goal may best be achieved by initially addressing fundamental aural, analytical, and compositional skills using both listening and writing exercises. Building on this foundation, the courses should progress to include more creative tasks, such as harmonizing a melody by selecting appropriate chords, composing a musical bass line to provide two-voice counterpoint, or realizing figured-bass notation.

25. AP Exam Area - Physics B, Score 3

Credit Hour Recommendation	Quarter	10-15
	Semester	8-10
If no match: OTM Natural Science Area Credit	Quarter	10-15
	Semester	8-10

Recommended Ohio Articulation Number Course Match-OSC021 General Physics Sequence (Algebra-based)

Recommended Match:

The introductory algebra-based physics **sequence**. These courses should provide a systematic introduction to the main principles of physics and emphasize the development of conceptual understanding and problem-solving ability using algebra and trigonometry, but rarely calculus. In most colleges, this is a one-year terminal sequence including a laboratory component and is not the usual preparation for more advanced physics and engineering courses. However, the B course provides a foundation in physics for students in the life sciences, some applied sciences, and other fields not directly related to science.

26. AP Exam Area - Physics C: Electricity and Magnetism, Score 3

Credit Hour Recommendation	Quarter*	3-5
	Semester	4-5

If no match: OTM Natural Science Area Credit	Quarter*	3-5
	Semester	4-5

Recommended Ohio Articulation Number Course Match-OSC017 College Physics II (Calculus-based)* - semesters only

***For quarter schools, this match should include at least one course in the OAN match. Credit hours should be determined by how the calculus-based physics sequence is divided.**

Recommended Match:

An introductory calculus-based physics **course**. This course ordinarily forms the first part of the college sequence that serves as the foundation in physics for students majoring in the physical sciences or engineering. The course is parallel to or preceded by mathematics courses that include calculus. Methods of calculus are used wherever appropriate in formulating physical principles and in applying them to physical problems. The course is more intensive and analytic than that in the B course, with strong emphasis on solving a variety of challenging problems.

27. AP Exam Area - Physics C: Mechanics Score 3

Credit Hour Recommendation	Quarter*	3-5
	Semester	4-5
If no match: OTM Natural Science Area Credit	Quarter*	3-5
	Semester	4-5

Recommended Ohio Articulation Number Course Match-OSC 016 College Physics I (Calculus-based) - semesters only

***For quarter schools, this match should include at least one course in the OAN match. Credit hours should be determined by how the calculus-based physics sequence is divided.**

Recommended Match:

The second part of a multi-**course** calculus-based physics sequence for students majoring in the physical sciences or engineering. Methods of calculus are used wherever appropriate in formulating physical principles and in applying them to physical problems. The course is more intensive and analytic than that in the B course, with strong emphasis on solving a variety of challenging problems.

28. AP Exam Area - Psychology, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3
If no match: OTM Social Science Area Credit	Quarter	3-5
	Semester	3

Recommended Ohio Articulation Number Course Match-OSS 015 Intro/Fundamentals of Psychology

Recommended Match:

An introductory **course** in Psychology. Emphasis is placed on introducing students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Included is a consideration of the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. Students also learn about the ethics and methods psychologists use in their science and practice.

29. AP Exam Area - Spanish Language, Score 3

Credit Hour Recommendation	Quarter	9-15
	Semester	6-10
If no match: General Elective Credit*	Quarter	9-15
	Semester	6-10

Recommended Match:

The complete beginning **sequence** (2 semesters/3-4 quarters), the equivalent of the first-year, in the study of the Spanish language. These courses should emphasize the use of language for active communication and help students develop the ability to understand spoken Spanish in various contexts, and a Spanish vocabulary sufficiently ample for reading newspaper and magazine articles, literary texts, and other non-technical writings without dependence on a dictionary and the ability to express themselves coherently, resourcefully, and with reasonable fluency and accuracy in both written and spoken Spanish.

***Spanish Language not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence of a foreign language that is offered.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of hours within this range should be determined by how the institution awards credit for a typical year-long sequence.

30. AP Exam Area - Spanish Literature, Score 3

Credit Hour Recommendation	Quarter	12-20
	Semester	9-15
If no match: General Elective Credit*	Quarter	12-20
	Semester	9-15
OR: General Elective Credit* AND OTM Arts and Humanities Area Credit*	Quarter	9-15
	Semester	6-10
	Quarter	3-5
	Semester	3-5

Recommended Match:

The complete beginning **sequence** (2 semesters/3-4 quarters), the equivalent of the first-year, in the study of the Spanish language and at least the first course in the intermediate or second-year sequence. These courses introduce students with advanced language skills to the formal study of a representative body of literary texts in Spanish.

***Spanish Language not offered:** General Elective Credit should be awarded in hours equal to the beginning (first-year) sequence and at least the first course in the intermediate (second-year) sequence of a foreign language that is offered. As an alternative, general elective credit may be awarded for the beginning, or first-year sequence, and an OTM Arts and Humanities area credit may replace the credit for the first course in the intermediate (second-year) sequence.

***No Foreign Languages offered:** General elective credit hours within the range above should be awarded. The exact number of hours within this range should be determined by how the institution awards credit for a typical year-long sequence, plus an additional course.

Special Note: If a student enters with credit for both Spanish Language and Spanish Literature, the complete beginning (first-year) sequence of Spanish language and at least the first course in the intermediate (second-year) sequence should be awarded.

31. AP Exam Area - Statistics, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3-4
If no match: OTM Mathematics Area Credit	Quarter	3-5
	Semester	3-4

Recommended Match:

A beginning **course** in statistical probability and analysis study. The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes: 1) Exploring Data: Describing patterns and departures from patterns, 2) Sampling and Experimentation: Planning and conducting a study, 3) Anticipating Patterns: Exploring random phenomena using probability and simulation, and 4) Statistical Inference: Estimating population parameters and testing hypotheses.

32. AP Exam Area - Studio Art 2-D, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3
If no match: General Elective Credit	Quarter	3-5
	Semester	3

Recommended Match:

A beginning **course** in 2-D design. The AP Program offers three portfolios: Drawing, 2-D Design, and 3-D Design. The portfolios share a basic, three-section structure, which requires the student to show a fundamental competence and range of understanding in visual concerns (and methods). A score of 3 or better on this test does not guarantee admission into the art major. Artwork should be retained for future portfolio evaluation.

33. AP Exam Area - Studio Art 3-D, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3
If no match: General Elective Credit	Quarter	3-5
	Semester	3

Recommended Match:

A beginning **course** in 3-D design. The AP Program offers three portfolios: Drawing, 2-D Design, and 3-D Design. The portfolios share a basic, three-section structure, which requires the student to show a fundamental competence and range of understanding in visual concerns (and methods). A score of 3 or better on this test does not guarantee admission into the art major. Artwork should be retained for future portfolio evaluation.

34. AP Exam Area - Studio Art, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3
If no match: General Elective Credit	Quarter	3-5
	Semester	3

Recommended Match:

A beginning **course** in drawing. The AP Program offers three portfolios: Drawing, 2-D Design, and 3-D Design. The portfolios share a basic, three-section structure, which requires the student to show a fundamental competence and range of understanding in visual concerns (and methods). A score of 3 or better on this test does not guarantee admission into the art major. Artwork should be retained for future portfolio evaluation.

35. AP Exam Area – U.S. Government and Politics, Score 3

Credit Hour Recommendation	Quarter	3-5
	Semester	3
If no match: OTM Social Sciences Area Credit	Quarter	3-5
	Semester	3

Recommended Ohio Articulation Number Course Match-OSS011 American Politics/Government

Recommended Match:

A beginning **course** in Political Science with a U.S. Government focus. Emphasis is placed on an analytical perspective on government and politics in the United States. This course should provide both the study of general concepts used to interpret U.S. politics and the analysis of specific case studies. It also requires familiarity with the various institutions, groups, beliefs, and ideas that constitute U.S. political reality.

36. AP Exam Area – U.S. History, Score 3

Credit Hour Recommendation	Quarter	9-15
	Semester	6-8
If no match: OTM Arts and Humanities or Social Science area credit	Quarter	9-15
	Semester	6-8

Recommended Ohio Articulation Number Course Match-OHS010 U.S. American History Sequence

Recommended Match:

The introductory **sequence** in United States history. The courses should provide students with the analytical skills and enduring understandings necessary to deal critically with the problems and materials in United States history. Students should learn to assess historical materials—their relevance to a given interpretive problem, their reliability, and their importance—and to weigh the evidence and interpretations presented in historical scholarship. These courses should develop the skills necessary to arrive at conclusions on the basis of an informed judgment and to present reasons and evidence clearly and persuasively in an essay format.

37. AP Exam Area - World History, Score 3

Credit Hour Recommendation	Quarter	9-15
	Semester	6-8
If no match: OTM Arts and Humanities or Social Science area credit	Quarter	9-15
	Semester	6-8

Recommended Match:

The introductory **sequence** in the history of world civilizations. These courses should develop greater understanding of the evolution of global processes and contacts, in interaction with different types of human societies. This understanding is advanced through a combination of selective factual knowledge and appropriate analytical skills. The courses highlight the nature of changes in international frameworks and their causes and consequences, as well as comparisons among major societies. The courses emphasize relevant factual knowledge deployed in conjunction with leading interpretive issues and types of historical evidence. The sequence builds on an understanding of cultural, institutional, and technological precedents that, along with geography, set the human stage.