Introduction to Computer Programming Using Java

CREDIT HOURS
3

LEVEL
LOWER

EXAM CODE 190 CATALOG NUMBER ITEx210

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www.excelsior.edu/contentguides

PRACTICE EXAMS
SEE PAGE 1 FOR DETAILS
Before You Choose This UExcel Exam

Uses for the Examination

• Excelsior College, the test developer, recommends granting three (3) semester hours of lower-level undergraduate credit to students who receive a letter grade of C or higher on this examination.

• Other colleges and universities also recognize this exam as a basis for granting credit or advanced standing.

• Individual institutions set their own policies for the amount of credit awarded and the minimum acceptable grade.

Exam-takers who have applied to Excelsior College should ask their academic advisor where this exam fits within their degree program.

Exam-takers not enrolled in an Excelsior College degree program should check with the institution from which they wish to receive credit to determine whether credit will be granted and/or to find out the minimum grade required for credit. Those who intend to enroll at Excelsior College should ask an admissions counselor where this exam fits within their intended degree program.

Examination Length and Scoring

The examination consists of approximately 80 questions, most of which are multiple choice; for samples of all the item types on this exam, see the sample items in the back of this guide. Some items are unscored, pretest items. The pretest items are embedded throughout the exam and are indistinguishable from the scored items. You will have two (2) hours to complete the examination. Your score will be reported as a letter grade.

UExcel Exam Resources

Excelsior College Bookstore

The Excelsior College Bookstore offers recommended textbooks and other resources to help you prepare for UExcel exams.

The bookstore is available online at: www.excelsior.edu/bookstore

UExcel Practice Exams

The official UExcel practice exams are highly recommended as part of your study plan. Once you register for your UExcel exam, you are eligible to purchase the corresponding practice exam, which can be taken using any computer with a supported Web browser. Each practice exam includes two forms that you may take within a 180-day period.

Excelsior College Library

Enrolled Excelsior College students can access millions of authoritative resources online through the Excelsior College Library. Created through our partnership with the Sheridan Libraries of The Johns Hopkins University, the library provides access to journal articles, books, websites, databases, reference services, and many other resources. Special library
pages relate to the nursing degree exams and other selected exams. To access it, visit www.excelsior.edu/library (login is required).

Our library provides:

- 24/7 availability
- The world’s most current authoritative resources
- Help and support from staff librarians

**Online Tutoring**

Excelsior College offers online tutoring through SMARTTHINKING™ to connect with tutors who have been trained in a variety of academic subjects. To access SMARTTHINKING, go to www.excelsior.edu/smarthinking. Once there, you may download a copy of the SMARTTHINKING Student Handbook as a PDF.

**MyExcelsior Community**

MyExcelsior Community enables Excelsior College students and alumni to interact with their peers online. As members, students can participate in real-time chat groups, join online study groups, buy and sell used textbooks, and share Internet resources. **Enrolled students have automatic access from their MyExcelsior page.** Visit www.excelsior.edu/myexcelsiorcommunity.

**Preparing for UExcel Exams**

**How Long Will It Take Me to Study?**

A UExcel exam enables you to show that you’ve learned material comparable to one or more 15-week college-level courses. As an independent learner, you should study and review as much as you would for a college course. For a 3-credit course in a subject they don’t know, most students would be expected to study nine hours per week for 15 weeks, for a total of 135 hours.

**Study Tips**

Become an active user of the resource materials. Aim for understanding rather than memorization. The more active you are when you study, the more likely you will be to retain, understand, and apply the information.

The following techniques are generally considered to be active learning:

- **preview or survey** each chapter
- **highlight or underline text** you believe is important
- **write questions or comments** in the margins
- **practice re-stating content** in your own words
- **relate what you are reading** to the chapter title, section headings, and other organizing elements of the textbook
- **find ways to engage** your eyes, your ears, and your muscles, as well as your brain, in your studies
- **study with a partner or a small group** (if you are an enrolled student, search for partners on MyExcelsior Community)
- **prepare your review notes** as flashcards or create recordings that you can use while commuting or exercising

When you feel confident that you understand a content area, review what you have learned. Take a second look at the material to evaluate your understanding. If you have a study partner, the two of you can review by explaining the content to each other or writing test questions for each other to answer. Review questions from textbook chapters may be helpful for partner or individual study, as well.

**Using UExcel Practice Exams**

We recommend taking the first form of the practice exam when you begin studying, to see how much you already know. After taking the first practice exam, check your performance on each question and find out why your answer was right or wrong. This feedback will help you improve your knowledge of the subject and identify areas of weakness that you should address before taking the exam. Take the second form of the practice exam after you have finished studying. Analyze your results to identify the areas that you still need to review.

Although there is no guarantee, our research suggests that students who do well on the practice exams are more likely to pass the actual exam than those who do not do well (or do not take advantage of this opportunity).
About Test Preparation Services

Preparation for UExcel® exams and Excelsior College® Examinations, though based on independent study, is supported by Excelsior College with a comprehensive set of exam learning resources and services designed to help you succeed. These learning resources are prepared by Excelsior College so you can be assured that they are current and cover the content you are expected to master for the exams. These resources, and your desire to learn, are usually all that you will need to succeed.

There are test-preparation companies that will offer to help you study for our examinations. Some may imply a relationship with Excelsior College and/or make claims that their products and services are all that you need to prepare for our examinations.

Excelsior College is not affiliated with any test preparation firm and does not endorse the products or services of these companies. No test preparation vendor is authorized to provide admissions counseling or academic advising services, or to collect any payments, on behalf of Excelsior College. Excelsior College does not send authorized representatives to a student’s home nor does it review the materials provided by test preparation companies for content or compatibility with Excelsior College examinations.

To help you become a well-informed consumer, we suggest that before you make any purchase decision regarding study materials provided by organizations other than Excelsior College, you consider the points outlined on our website at www.excelsior.edu/testprep.

Preparing for This Exam

Prior Knowledge

A basic proficiency in computer use and in the applications (such as any Java IDE) you will use to prepare for this examination.

Using the Content Outline

Each content area in the outline includes (1) the recommended minimum hours of study to devote to that content area and (2) the most important sections of the recommended resources for that area. These annotations are not intended to be comprehensive. You may need to refer to other chapters in the recommended textbooks. Chapter numbers and titles may differ in other editions.

This content outline contains examples of the types of information you should study. Although these examples are numerous, do not assume that everything on the exam will come from these examples. Conversely, do not expect that every detail you study will appear on the exam. Any exam is only a broad sample of all the questions that could be asked about the subject matter.

Using the Sample Questions and Rationales

Each content guide provides sample questions to illustrate those typically found on the exam. These questions are intended to give you an idea of the level of knowledge expected and the way questions are typically phrased. The sample questions do not sample the entire content of the exam and are not intended to serve as an entire practice test.

Recommended Resources for the UExcel Exam in Introduction to Computer Programming Using Java

The study materials listed below are recommended by Excelsior College as the most appropriate resources to help you study for the examination. For information on ordering from the Excelsior College Bookstore, see page 1 of this guide. You may also find resource materials in college libraries. Public libraries may have some of the textbooks or may be able to obtain them through an interlibrary loan program.

You should allow sufficient time to obtain resources and to study before taking the exam.

Textbooks

This textbook was used by the examination development committee to verify all questions on the exam.

**These study materials may be purchased from the Excelsior College Bookstore.**

**Recommended Additional Resources**

**Websites/Web Pages**

Java Home Page
www.oracle.com/technetwork/java/index.html

JDKs
java.sun.com/javase/downloads/index.jsp

Tutorials
java.sun.com/docs/books/tutorial/index.html

Eclipse IDE
www.eclipse.org

Netbeans IDE
netbeans.org

Text practice test items
www.cs.armstrong.edu/Liang/intro9e/test.html

**Recommended Open Educational Resources**

Orange Coast College: Java Programming
www.oercommons.org/courses/introduction-to-java-programming/view

University of Minnesota
Open Academics Textbooks: How to Think Like a Computer Scientist: Think Java
https://www.oercommons.org/courses/how-to-think-like-a-computer-scientist-think-java/

MIT Open CourseWare
Introduction to Programming in Java
www.oercommons.org/courses/introduction-to-programming-in-java-january-iap-2010/view

OpenStax
math.hws.edu/javanotes/

**Reducing Textbook Costs**

Many students know it is less expensive to buy a used textbook, and buying a previous edition is also an option. The Excelsior College bookstore includes a buyback feature and a used book marketplace, as well as the ability to rent digital versions of textbooks for as long as students need them. Students are encouraged to explore these and the many other opportunities available online to help defray textbook costs.
Content Outline

General Description of the Examination

The UExcel Introduction to Computer Programming using Java examination is based on material typically taught in a one-semester lower-level undergraduate course in Computer Programming. The content of the examination corresponds to course offerings such as Introduction to Computer Programming, Computer Science I, or Introductory programming using object oriented programming/Java.

The examination measures comprehension and understanding of computer and software organization; the software development process; variables, constants, primitive data types, expressions, and operators; control statements; modularity and function design; linear data structures; object oriented design, classes, and objects; and files in the Java language.

Those beginning to study for this exam should have a basic proficiency in computer use and access to Java IDE.

Learning Outcomes

After you have successfully worked your way through the recommended study materials, you should be able to demonstrate the following learning outcomes:

1. Comprehend computer and software organization and the software development process; recognize different types of errors and error elimination techniques (CONTENT AREA 1)
2. Understand variables, constants, primitive data types, their uses and conversion, and operators; interpret expressions based on the operator precedence. (CONTENT AREA 1)
3. Given a well defined programming problem, identify the structure (for example nesting), types and conditions of control statements needed for solving this problem. (CONTENT AREA 2)
4. Comprehend modularity; analyze a well defined programming problem and use functional decomposition to identify functional units (functions or methods) including their parameters, return values, and internal structure required for solving the problem. (CONTENT AREA 3)
5. Given a well defined programming problem, identify the data structures (such as arrays, strings, or classes) and understand the mechanisms of using them for solving the problem. (CONTENT AREAS 4–5)
6. Comprehend the concepts of object oriented design; analyze a well defined programming problem to identify classes, the relationships between classes and internal organization of classes involved in solving the problem. (CONTENT AREA 5)
7. Comprehend the concept of a file and text input/output from and to files. (CONTENT AREA 6)
**Content Outline**

The content outline describes the various areas of the test, similar to the way a syllabus outlines a course. To fully prepare requires self-direction and discipline. Study involves careful reading, reflection, and systematic review.

The major content areas on the Introduction to Computer Programming Using Java examination, the percent of the examination, and the hours to devote to each content area are listed below.

<table>
<thead>
<tr>
<th>Content Area</th>
<th>Percent of the Examination</th>
<th>Hours of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Programming Basics</td>
<td>15%</td>
<td>21</td>
</tr>
<tr>
<td>II. Control</td>
<td>25%</td>
<td>34</td>
</tr>
<tr>
<td>III. Modularity</td>
<td>15%</td>
<td>21</td>
</tr>
<tr>
<td>IV. Arrays and Strings</td>
<td>15%</td>
<td>21</td>
</tr>
<tr>
<td>V. Objects and classes</td>
<td>20%</td>
<td>27</td>
</tr>
<tr>
<td>VI. Files</td>
<td>10%</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Occasionally, examples will be listed for a content topic to help clarify that topic. However, the content of the examination is not limited to the specific examples given.

### I. Programming Basics

**15 PERCENT OF EXAM | 21 HOURS OF STUDY**

A. Computer and software organization (CPU, memory, storage, IO devices, programming languages, role of operating system)

B. Software development (Development process, IDE, JVM, Programming styles, types of errors, debugging)

C. Data definition
   1. Data types and type conversion
   2. Identifiers, variables, and constants

D. Assignment and arithmetic expressions and precedence

E. Formatted and unformatted console output

### II. Control

**25 PERCENT OF EXAM | 34 HOURS OF STUDY**

A. Boolean operators
   1. Relational operators
   2. Logical operators

B. Control statements
   1. Conditional execution
      a. If statement
      b. Switch statement
   2. Repetition
      a. While loop and sentinel
      b. For loop
3. Choice and nesting of control statements

C. Exceptions (throwing and catching)

III. Modularity

15 PERCENT OF EXAM | 21 HOURS OF STUDY

A. Passing parameters (by value and by reference)
B. Returning the values
C. Scope of variables and functions
D. Overloading
E. Stepwise refinement

IV. Arrays and Strings

15 PERCENT OF EXAM | 21 HOURS OF STUDY

A. Creating and initializing arrays
B. Linear operations on arrays and strings
   1. Traversing
   2. Searching
C. Passing arrays as parameters and returning arrays
D. String class (constructing, modification and linear operations)

V. Objects and Classes

20 PERCENT OF EXAM | 27 HOURS OF STUDY

A. Classes
   1. Member variables
   2. Member functions, getters, and setters
   3. Visibility
      a. Scope
      b. Modifiers
   4. Constructing and destroying objects
B. Advanced object oriented concepts
   1. Abstraction
   2. Encapsulation

3. Inheritance
   a. Sub and super classes
   b. This reference
   c. Super keyword
   d. Protected members

4. Polymorphism and overriding

VI. Files

10 PERCENT OF EXAM | 14 HOURS OF STUDY

A. File class
B. Input (Scanner class)
C. Output (PrintWriter class)
Sample Questions

The sample questions give you an idea of the level of knowledge expected in the exam and how questions are typically phrased. They are not representative of the entire content of the exam and are not intended to serve as a practice test.

Rationales for the questions can be found on pages 11–13 of this guide. In that section, the correct answer is identified and each answer is explained. The number in parentheses at the beginning of each rationale refers to the corresponding section of the content outline. For any questions you answer incorrectly, return to that section of the content outline for further study.

1. A program needs to store the total tally of students enrolled in a course on campus. The maximum class size is 500. What is the most efficient data type in terms of storage used for such a variable?
   1) byte
   2) short
   3) int
   4) double

2. Which word adheres to the acceptable naming conventions for a new user-defined Java class?
   1) System
   2) public
   3) final
   4) RunTotal

3. What is the value of z after this section of code executes?
   ```
   double a = 5;
   double b = 2;
   double c = 8;
   double z = a + b - c / 2 * 4 + 1;
   ```
   1) -1
   2) -2.5
   3) -8.0
   4) -.11111111

4. Which operator changes the value of one of its operands?
   1) <=
   2) ||
   3) ++
   4) ?: 

5. Which data type is a valid switch-expression?
   1) boolean
   2) char
   3) float
   4) long 

6. Which for loop prints the squares of the first ten even positive integer numbers?
   1) ```
   for (int i = 0; i < 20; i+=2)
       System.out.println(i * i);
   ```
   2) ```
   for (int i = 2; i < 21; i+=2)
       System.out.println(i * i);
   ```
   3) ```
   for (int i = 0; i <= 20; i++)
       System.out.println(i * i);
   ```
   4) ```
   for (int i = 2; i <= 20; i++)
       System.out.println(i * i);
   ```
7. What is the output of the following program?
```java
public class Main {
    public static void main(String[] args) {
        int x = 10;
        System.out.println("Before=", x);
        add(x, 1);
        System.out.println("After=", x);
    }
    public void add(int x, int y) {
        x = x + y;
    }
}
```
1) Before=10 After=10  
2) Before=10 After=11  
3) Before=10  
4) Before=10  

8. Which variable is out of scope?
A variable declared
1) in a class and used in a method defined in the same class.  
2) as a method parameter and used in the same method.  
3) in the loop initial-action and used in the same loop.  
4) in a method and used in another method of the same class.

9. Which method overloads the method below? (Only the method signatures are given.)
1) public int addNumbers(int num1, int num2)  
2) public void addNumbers(int n1, int n2)  
3) public void addNumbers(long num1, double num2)  
4) public void addNums(int num1, int num2)

10. What is used to represent the state of the object?
1) a data field  
2) a parameter  
3) an argument  
4) a constructor

11. What term is used to describe the creation of a new object?
1) abstraction  
2) contract  
3) encapsulation  
4) instantiation

12. Which methods cannot be overridden?
1) Methods that are overloaded.  
2) Methods that have a return value.  
3) Methods that are protected.  
4) Methods that are final.

13. Which statement will create a 10-element array of char values?
1) char letters = new char[10];  
2) String [] letters = new String[10];  
3) char [] letters = new char[];  
4) char letters [] = new char[10];

14. Which technique does a binary algorithm search use to find an element in a list?
1) divide and conquer  
2) row and column  
3) first to last  
4) last to first

15. Assuming that s1 and s2 are String objects, which of the following expressions is true if and only if s1 is lexicographically smaller than s2?
1) s1 < s2  
2) s1.compareTo(s2) <= 0  
3) s1.compareTo(s2) > 0  
4) s2.compareTo(s1) > 0

16. What is the purpose of the File class?
1) to store data on disk  
2) to allow creation of bigger arrays  
3) to sort data before being stored  
4) to reduce the use of system resources
17. The object reader is an instance of the Scanner class. Which statement can be used to read the number 15.6 from the keyboard and store the value 15 in the variable n?

1) int n = reader.nextInt();
2) int n = reader.next();
3) int n = reader.nextInt;
4) int n = (int)reader.nextDouble();

18. What happens if a file previously opened for writing is not closed by the end of the program?

1) A compile error will occur.
2) A runtime error will occur.
3) The data may not be saved properly in the file.
4) An IOException will be thrown.
1.(IC1)
1) A byte can only hold numbers from –128 to +127, so it would cause an overflow for a class size larger than 127.
2) A short can hold numbers from –32768 to 32767. It will accommodate the maximum value of 500 with room to spare in the smallest amount of memory.
3) An int would work as it can hold numbers from –2 billion to over 2 billion, however, it uses twice as many bytes as a short.
4) Since class sizes are whole numbers, a double is not advisable. A double uses 4 times as much space as a short and doubles cannot be compared for equality.

*3) This is correct; the division is done first, then the multiplication, then all the additions and subtractions, from left to right.
4) You would get this result if you did the division last, rather than first.

2.(IC2)
1) System is a pre-existing class name in the Java library and cannot be used.
2) public is a reserved key word in Java.
3) final is a reserved key word in Java.
4) RunTotal follows the correct naming conventions for a Java class and can be used as such.

4.(IIA1)
1) The <= operator does not change its operands.
2) The || operator does not change its operands.
3) The ++ operator adds 1 to its operand.
4) The ?: operator does not change its operands.

5.(IIB1b)
1) This sequence prints 0 and the squares of the first nine even positive integer numbers.
2) This sequence prints the squares of the first ten even positive integer numbers.
3) This sequence prints 0 and the squares of the first twenty positive integer numbers.
4) This sequence prints the squares of the first eighteen positive integer numbers.

*correct answer
7. (IIIA)  
1) This would be the output if print were used instead of println  
2) See 1) and 4).  
3) Because Java uses pass-by-value for passing primitive data types as parameters, the variable x's initial value is unchanged following the return from the add method.  
4) The variable x takes on the value 11 inside the method add.  

8. (IIIC)  
1) A variable declared in a class can be used anywhere in the class.  
2) A variable passed as a parameter can be used anywhere in the method.  
3) The scope of a variable declared inside the for-loop header consists of the entire for-loop block.  
4) A variable declared in one method cannot be used in another method without being declared in that other method.  

9. (IIID)  
1) Changing the return type is not an overload and leads to a compile error.  
2) Changing parameter names does not overload a method.  
3) Changing the parameter data types allows the compiler to distinguish between the methods.  
4) Changing the method name creates a new method, not an overloaded method.  

10. (VA1)  
1) A data field is an instance variable; variables can represent object state.  
2) Objects do not have parameters or arguments. Objects have methods that have arguments or parameters.  
3) See 2).  
4) A constructor is a method; methods do not represent state.  

11. (VB1)  
1) Abstraction is separation of implementation and the interface.  
2) Contract is fixing the interface of a class so that the users of the class and the class programmers can work independently.  
3) Encapsulation occurs when the details of an implementation are hidden.  
4) Instantiation is creating a new object from a class.  

12. (VB4)  
1) An overloaded method can be overridden.  
2) A method can be overridden regardless of whether or not it returns a value.  
3) Protected methods can be overridden.  
4) Java key word 'final' prevents overriding methods by subclasses.  

13. (IVA)  
1) This is not an array declaration: [ ] is missing.  
2) String and char are different data types.  
3) Array size is not specified.  
4) Correct statement; it has both an array declaration and allocation.  

14. (IVB2)  
1) The binary search method eliminates at least half of the array after each comparison. Binary search divides the problem into smaller problems and conquer by solving these problems. After solving the problems the results are combined together.  
2) There is no such technique.  
3) There is no particular direction of search in the binary search.  
4) See 3).
15.(IVD)
1) This expression would generate a syntax error, since the < operator cannot be used to compare objects.
2) This expression would be true if the contents of s1 are smaller than or equal to the contents of s2.
3) This expression would be true if the contents of s1 are greater than the contents of s2.
4) This is the correct expression to determine if s1 is smaller than s2.

16.(VIA)
1) The File class contains methods used to write data to a file on a disk.
2) Bigger arrays can be created regardless of whether or not they are stored in files.
3) File content can be sorted, but it does not have to be.
4) Files are system resources; their use increases the use of system resources, not reduces it.

17.(VIB)
1) Integers can be read using the nextInt method. It returns the next integer number.
2) next reads the next token, whether it is a number or not.
3) nextInt is a datafield where nextInt() is a method.
4) nextDouble() reads the next decimal number from the keyboard, (int) casts the number to an integer discarding the digits following the decimal point. This integer value is then assigned to int n.

18.(VIC)
1) Compilers cannot enforce or check this condition.
2) This does not cause a run-time error.
3) The close() method must be invoked to ensure that the data are written to the file correctly.
4) An IOException will not occur if the file is not an explicit call to the close method.

*correct answer
Registering for Your Exam

Register Online

www.excelsior.edu/examregistration
Follow the instructions and pay by Visa, MasterCard, American Express, or Discover Card.

Examination Administration

Pearson Testing Centers serve as the administrator for all Excelsior College computer-delivered exams. The Disability Services office at Excelsior College is responsible for considering requests for reasonable accommodations (exceptions for individual students with documented disabilities). If you are requesting an accommodation due to a disability, download and complete a Request for Accommodation form that can be accessed by visiting the Excelsior College website at www.excelsior.edu/disability-services.

Computer-Delivered Testing

You will take the exam by computer, entering your answers using either the keyboard or the mouse. The system is designed to be as user-friendly as possible, even for those with little or no computer experience. On-screen instructions are similar to those you would see in a paper examination booklet.

We strongly encourage you to use the online tutorial before taking your exam at a Pearson Testing Center. To access the tutorial, go to www.pearsonvue.com/uexcel and click on the Pearson VUE Tutorial link on the right hand side of the page.

On the Day of Your Exam

Important Reminders

On the day of your exam, remember to:

- dress comfortably: the computer will not mind that you’re wearing your favorite relaxation outfit
- arrive at the test site rested and prepared to concentrate for an extended period
- allow sufficient time to travel, park, and locate the test center
- be prepared for possible variations in temperature at the test center due to weather changes or energy conservation measures
- bring your ID, but otherwise, don’t weigh yourself down with belongings that will have to be kept in a locker during the test.

Academic Honesty

Nondisclosure Statement

- All test takers must agree to the terms of the Excelsior College Academic Honesty Policy before taking an examination. The agreement will be presented on screen at the Pearson VUE Testing Center before the start of your exam.
- Once the test taker agrees to the terms of the Academic Honesty Nondisclosure Statement, the exam will begin.

If you choose not to accept the terms of the agreement

- your exam will be terminated
- you will be required to leave the testing center
• you will not be eligible for a refund. For more information, review the Student Policy Handbook at www.excelsior.edu/studentpolicyhandbook.

Student behavior is monitored during and after the exam. Electronic measures are used to monitor the security of test items and scan for illegal use of intellectual property. This monitoring includes surveillance of Internet chat rooms, websites, and other public forums.

Information About UExcel Exams for Colleges and Universities

A committee of teaching faculty and practicing professionals determines the learning outcomes to be tested on each exam. Excelsior College Center for Educational Measurement staff oversee the technical aspects of test construction in accordance with current professional standards. To promote fairness in testing, we take special care to ensure that the language used in the exams and related materials is consistent, professional, and user friendly. Editorial staff perform systematic quantitative and qualitative reviews to ensure accuracy, clarity, and compliance with conventions of bias-free language usage.

Excelsior College, the test developer, recommends granting three (3) semester hours of upper-level undergraduate credit to students who receive a letter grade of C or higher on the UExcel Exam in Abnormal Psychology. Other colleges and universities also recognize this exam as a basis for granting credit or advanced standing. Individual institutions set their own policies for the amount of credit awarded and the minimum acceptable grade.

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