

MATH V04J: JUST-IN-TIME SUPPORT FOR COLLEGE ALGEBRA

History

1. Apr 14, 2021 by Dorothy Farias (dfarias)

Viewing: MATH V04J : Just-in-Time Support for College Algebra

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Originator

churtado

Co-Contributor(s)

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College

Ventura College

Discipline (CB01A)

MATH - Mathematics

Course Number (CB01B)

V04J

Course Title (CB02)

Just-in-Time Support for College Algebra

Banner/Short Title

Support for College Algebra

Credit Type

Credit

Start Term

Summer 2020

Catalog Course Description

A review of the core prerequisite skills, competencies, and concepts for college algebra. Intended for students who are concurrently enrolled in MATH V04, college algebra. Just-in-time support topics include: learning skills, computational skills developed in intermediate algebra, the vocabulary of algebra, translation from English to algebra, and evaluation of literal expressions and functions.

Additional Catalog Notes

This support course is required for some, but not all, sections of MATH V04; click the CRN information in the schedule of classes for each section of MATH V04 to determine whether support is required for that section; see your counselor or major advisor for more information.

Taxonomy of Programs (TOP) Code (CB03)

1701.00 - Mathematics, General

Course Credit Status (CB04)

S (Support Course - Credit - Not Degree Applicable)

Course Transfer Status (CB05) (select one only)

C (Not transferable)

Course Basic Skills Status (CB08)

B - The Course is a Basic Skills Course

SAM Priority Code (CB09)

E - Non-Occupational

Course Cooperative Work Experience Education Status (CB10)

N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)

Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)

N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)

A - One level below transfer

Course Noncredit Category (CB22)

Y - Credit Course

Funding Agency Category (CB23)

Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)

2 - Not Program Applicable

General Education Status (CB25)

Y - Not Applicable

Support Course Status (CB26)

S - Course is a support course

Field trips

Will not be required

Grading method

(P) Pass/No Pass Grading

Does this course require an instructional materials fee?

No

Repeatable for Credit

No

Is this course part of a family?

No

Units and Hours

Carnegie Unit Override

No

In-Class

Lecture

Minimum Contact/In-Class Lecture Hours

35

Maximum Contact/In-Class Lecture Hours

35

Activity**Laboratory****Total in-Class****Total in-Class****Total Minimum Contact/In-Class Hours**

35

Total Maximum Contact/In-Class Hours

35

Outside-of-Class**Internship/Cooperative Work Experience****Paid****Unpaid****Total Outside-of-Class****Total Outside-of-Class****Minimum Outside-of-Class Hours**

70

Maximum Outside-of-Class Hours

70

Total Student Learning**Total Student Learning****Total Minimum Student Learning Hours**

105

Total Maximum Student Learning Hours

105

Minimum Units (CB07)

2

Maximum Units (CB06)

2

Corequisites

MATH V04

Requisite Justification**Requisite Type**

Corequisite

Requisite

MATH V04

Requisite Description

Other (specify)

Specify Other Requisite Description

MATH V04 is the course for which MATH V04J provides support

Level of Scrutiny/Justification

Content review

Student Learning Outcomes (CSLOs)

Upon satisfactory completion of the course, students will be able to:

- | | |
|---|--|
| 1 | Students will identify and organize algebraic information in order to analyze, graph, interpret, or evaluate it using mathematical skills. |
| 2 | Students will identify algebraic problems, examine them from one or more approaches, and come to conclusions that are supported by well-reasoned mathematical arguments. |
| 3 | Students will apply algebraic knowledge to solve application problems. |

Course Objectives

Upon satisfactory completion of the course, students will be able to:

- | | |
|---|--|
| 1 | Perform algebraic operations and solve equations involving linear, absolute value, polynomial, rational, radical, exponential, and logarithmic expressions. |
| 2 | Graph linear, quadratic, exponential, and logarithmic functions. |
| 3 | Solve and graph linear, quadratic, and absolute value inequalities. |
| 4 | Apply factoring techniques to polynomial expressions. |
| 5 | Perform operations with complex numbers. |
| 6 | Solve systems of equations in two or more variables. |
| 7 | Define a function; identify whether a given equation or curve represents a function; determine a function's domain and range; perform algebraic operations, including composition, on functions; and determine and verify inverse functions. |
| 8 | Apply algebraic knowledge learned throughout the course to solve application problems. |
| 9 | Apply effective learning skills for success in college. |

Course Content**Lecture/Course Content**

1. Algebraic operations and equations (Obj 1)
 - a. Add, subtract, multiply, divide and compose linear, absolute value, polynomial, rational, radical, exponential and logarithmic functions.
 - b. Solve linear, absolute value, polynomial, rational, radical, exponential and logarithmic equations.
2. Graphing (Obj 2 and 3)
 - a. Graph linear, quadratic, exponential, and logarithmic functions
 - b. Graph linear, quadratic, and absolute value inequalities
3. Factoring (Obj 4)
 - a. Methods of factoring, including the sum and difference of cubes
4. Complex numbers (Obj 5)
 - a. Algebraic operations on complex numbers
5. Systems of linear equations (Obj 6)
 - a. Solve systems of linear equations using:
 - i. Substitution
 - ii. Addition/Elimination
 - iii. Matrix Methods
6. Functions (Obj 7)
 - a. Determine if a relation is a function
 - b. Identify a function's domain and range
 - c. Add, subtract, multiply, divide and compose functions
 - d. Determine if a function is invertible
 - e. Find inverse functions
7. Application problems (Obj 8)
 - a. Apply algebraic knowledge to model and solve application problems
8. Learning skills (Obj 9)
 - a. Apply learning skills that promote success in college.

Laboratory or Activity Content

N/A - Lecture only.

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

Problem solving exercises
 Skills demonstrations
 Written expression

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Computational homework
 Group projects
 Individual projects
 Journals
 Mathematical proofs
 Objective exams
 Oral presentations
 Other (specify)
 Problem-solving exams
 Portfolios
 Quizzes
 Reports/papers
 Research papers
 Skills demonstrations
 Skills tests or practical examinations

Other

performance exam(s)

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Audio-visual presentations
 Computer-aided presentations
 Collaborative group work
 Class activities
 Class discussions
 Distance Education
 Demonstrations
 Group discussions
 Guest speakers
 Instructor-guided interpretation and analysis
 Instructor-guided use of technology
 Internet research
 Lecture
 Other (specify)
 Small group activities

Specify other method of instruction

Large Group Activities
 Problem Solving
 Reading Assignments
 Web-based Presentation

Representative Course Assignments**Writing Assignments**

Summarizing and interpreting answers to problems in paragraph form; articulating responses within the computational homework to demonstrate an understanding of concepts.

Reading Assignments

Text and other scholarly articles, 1 to 2 sections/articles per week.

Problem-Solving and Other Assignments (if applicable)

Solving problems using various forms of technology; use of technology may be incorporated into the computational homework, or assigned in addition to computational homework

Outside Assignments**Representative Outside Assignments**

Representative outside assignments may include, but are not limited to, homework problems, projects, activities, and group work in which students:

- Add, subtract, multiply, divide and compose linear, absolute value, polynomial, rational, radical, exponential and logarithmic functions.
- Solve linear, absolute value, polynomial, rational, radical, exponential and logarithmic equations.
- Graph linear, quadratic, exponential, and logarithmic functions
- Graph linear, quadratic, and absolute value inequalities
- Apply methods of factoring, including the sum and difference of cubes
- Apply algebraic operations on complex numbers
- Solve systems of linear equations using, matrix methods, addition/elimination, substitution
- Determine if a relation is a function
- Identify a function's domain and range
- Determine if a function has an inverse
- Find inverse functions
- Apply algebraic knowledge to model and solve application problems
- Apply learning skills that promote success in college.

Textbooks and Lab Manuals**Resource Type**

Textbook

Description

Blitzer, R.F (2017). *College Algebra* (7th). Pearson. 9780134469164

Distance Education Addendum**Definitions****Distance Education Modalities**

Hybrid (51%–99% online)
Hybrid (1%–50% online)
100% online

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.

Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.

Yes

Regular Effective/Substantive Contact

Hybrid (1%–50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
E-mail	E-mail, class announcements and various learning management system tools such as “Message Students Who” and “Assignment Comments”, will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and faculty provided email accounts.
Face to Face (by student request; cannot be required)	Students will have direct face-to-face contact with instructor during weekly class meetings. This time will provide the opportunity for students to discuss and ask questions about the material to facilitate student learning objectives and course outcomes. The instructor will also hold weekly, scheduled office hours for students to be able to meet and discuss course materials or individual progress. Students can request additional in-person or web conferencing meetings with faculty member as needed. Faculty may encourage online students to form “study groups” in person or online. Note: For hybrid classes, face-to-face class time will provide opportunities for students to discuss amongst themselves (in groups or pairs) and ask questions about the material to facilitate SLOs and course outcomes.
Other DE (e.g., recorded lectures)	Faculty may use a variety of ADA compliant tools and media integrated within the learning management system to help students reach SLO competency. Tools may include: <ul style="list-style-type: none"> o Recorded Lectures, Narrated Slides, Screencasts o Instructor created content o VC Online Library Resources o Canvas Peer Review Tool o Canvas Student Groups (Assignments, Discussions) o 3rd Party (Publisher) Tools (MyOpenMath) o Websites and Blogs o Multimedia (YouTube, Films on Demand, 3CMedia, Khan Academy, etc.)
Synchronous Dialog (e.g., online chat)	Instructor may provide a set time each week where they will be available for synchronous chat and be available in the discussion board and can answer questions in live time.
Video Conferencing	Video tools such as ConferZoom can be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Video Conferences will be used to facilitate SLOs and student-to-student group meetings will also be encouraged.

Hybrid (51%–99% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.

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Video Conferencing	Video tools such as ConferZoom can be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Video Conferences will be used to facilitate SLOs and student-to-student group meetings will also be encouraged.
100% online Modality:	
Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
E-mail	E-mail, class announcements and various learning management system tools such as “Message Students Who” and “Assignment Comments”, will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and faculty provided email accounts.
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Telephone	Students can request for instructor to call or vice versa in order to answer one-on-one questions about course material or student progress.

Examinations

Hybrid (1%–50% online) Modality

Online
On campus

Hybrid (51%–99% online) Modality

Online
On campus

Primary Minimum Qualification

MATHEMATICS

Review and Approval Dates

Department Chair

MM/DD/YYYY

Dean

MM/DD/YYYY

Technical Review

MM/DD/YYYY

Curriculum Committee

09/15/2020

DTRW-I

n/a

Curriculum Committee

09/15/2020

Board

n/a

CCCCO

09/30/2020

Control Number

CCC000598522

DOE/accreditation approval date

MM/DD/YYYY

Reviewer Comments

Iwright (Fri, 18 Oct 2019 22:28:14 GMT): Dean reviewed 10/18/2019

Ryan Petitfils (ryan_petitfils1) (Mon, 11 May 2020 19:19:52 GMT): Please send course back so that I may edit the DE.

Michael Callahan (mcallahan) (Tue, 12 May 2020 21:22:29 GMT): Rollback: Ryan will be adding DE to the course.

Sharon Oxford (soxford) (Thu, 30 Jul 2020 01:23:42 GMT): Recommend looking into DE Modality permanent status reflect same status as Math V04.

Michael Bowen (mbowen) (Sun, 16 Aug 2020 02:15:57 GMT): Emergency-only DE selections were made permanent by vote of math department 20200814.

Michael Bowen (mbowen) (Fri, 28 Aug 2020 00:56:33 GMT): Rollback: Hold for 9/15 CC meeting.

Kelly Denton (kdenton) (Thu, 11 Mar 2021 01:27:39 GMT): SYNC ERROR FIX: Edited Catalog Course Description field by removing the last sentence "Not applicable for degree credit." and adding it to the Additional Catalog Notes field.

Key: 4969