













Which Citrus College Degrees Require Calculus?

-  = requires MATH190
-  = requires MATH191
-  = requires MATH210
-  = Optional (i.e. Calculus courses are just one option among other possible courses to fulfill degree requirement)









Associate Degrees for Transfer (ADTs)

- [Administration of Justice](#)
- [Art History](#)
- [Biology](#) 
- [Business Administration](#)
- [Communication Studies](#)
- [Early Childhood Education](#)
- [Elementary Teacher Education](#)
- [English](#)
- [History](#)
- [Journalism](#)
- [Kinesiology](#)
- [Mathematics](#)   
- [Physics](#)   
- [Political Science](#)
- [Psychology](#)  (MATH190 is optional)
- [Sociology](#)
- [Spanish](#)
- [Studio Arts](#)
- [Theatre Arts](#)

Associate in Arts Degrees (AA)

- [Dance](#)
- [English Literature](#)
- [Language Arts](#)
- [Liberal Arts - Humanities](#)
- [Liberal Arts – Business Technology](#) 
(MATH190 and MATH191 are optional)
- [Liberal Arts – Math and Science](#) 
(MATH190, MATH191, and MATH210 are optional)
- [Music](#)
- [Social Sciences](#)
- [Theatre Arts](#)
- [Theatre Arts - Acting Emphasis](#)
- [Visual Arts](#)

Associate in Science Degrees (AS)

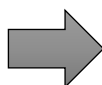
- [Automotive Technology](#)
- [Biological & Physical Sciences \(& Mathematics\)](#) 
(MATH190, MATH191, and MATH210 are optional)
- [Biological Sciences](#)   (MATH191 is optional)
- [Biotechnology](#)
- [Business](#)  (MATH190 is optional)
- [Child Development](#)
- [Correctional Science](#)
- [Cosmetology](#)
- [Criminal Justice](#)
- [Dental Assisting](#)
- [Design and Engineering Drawing Technology](#)
- [Digital and Web Design](#)
- [Emergency Management & Homeland Security](#)
- [Kinesiology](#)
- [Medium and Heavy Diesel Truck Technology](#)
- [Photography](#)
- [Physical Science](#) 
- [Pre-Allied Health](#)
- [Pre-Engineering](#)   
- [Public Works](#)
- [Recording Technology](#)
- [Registered Nursing](#)
- [Vocational Nursing](#)
- [Water Technology](#)

Note: Click on the degree titles above to link to the full degree requirements located on the Citrus College website

Calculus Requirements by Degree and Major
Tracking through the Calculus Sequence

Original 2014-2015 MATH190 Cohort

Major	Count of ID
Biological & Physical Sci & (Math) ♦	96
Mathematics ● ▲ ■	30
Undeclared	28
Business and Commerce, General ♦	22
Biology ●	21
Physics ● ▲ ■	11
Lib Arts - Math and Science ♦	8
Business Management ♦	6
Computer Infrastructure_Supp	6
Automotive Technology	5
Business Administration ♦	5
Electronics - Electric Tech	5
Accounting	4
Information Technology	4
Kinesiology	4
Transfer Studies	4
Elementary Teacher Education	3
Political Science	3
Social & Behavioral Sciences	3
Architectural Drafting	2
Language Arts	2
Lib Arts - Business Technology ♦	2
Library Science, General	2
Administration of Justice	1
Architectural Design	1
Comp Graphics - Digital Imag	1
Cosmetology - Barbering	1
Dental Assistant	1
Diesel Technology	1
Emergency Mgmt & Homeland Sec	1
English	1
Fine Arts, General	1
Lib Arts - Arts and Humanities	1
Marketing and Distribution	1
Physical Education	1
Psychology ♦	1
Public Works	1
Registered Nursing	1
Grand Total	291



Enrolled in MATH210 (by Spring 2017)

Major	Count of ID
Biological & Physical Sci & (Math) ♦	37
Mathematics ● ▲ ■	12
Undeclared	8
Automotive Technology	3
Biology ●	3
Electronics - Electric Tech	3
Physics ● ▲ ■	3
Business and Commerce, General ♦	2
Business Management ♦	2
Computer Infrastructure_Supp	2
Lib Arts - Math and Science ♦	2
Library Science, General	2
Accounting	1
Architectural Drafting	1
Business Administration ♦	1
Dental Assistant	1
Elementary Teacher Education	1
Fine Arts, General	1
Information Technology	1
Lib Arts - Arts and Humanities	1
Social & Behavioral Sciences	1
Transfer Studies	1
Grand Total	89

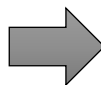
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Calculus Requirements by Degree and Major
Tracking through the Calculus Sequence

Original 2015-2016 MATH190 Cohort

Major	Count of ID
Biological & Physical Sci & (Math) ◆	91
Biology ●	58
Mathematics ● ▲ ■	38
Undeclared	33
Business and Commerce, General ◆	30
Physics ● ▲ ■	28
Business Administration ◆	20
Pre-Engineering ● ▲ ■	19
Information Technology	6
Lib Arts - Arts and Humanities	6
Accounting	5
Architectural Design	4
Psychology ◆	4
Elementary Teacher Education	3
Kinesiology	3
Registered Nursing	3
Automotive Technology	2
Drafting Architecture	2
Language Arts	2
Lib Arts - Math and Science ◆	2
Business Management ◆	1
Comp Graphics - Digital Imag	1
Correctional Science	1
Recording Technology	1
Sociology	1
Theatre	1
Theatre Arts - Acting	1
Transfer Studies	1
Water Technology	1
Wildland Resources - Forestry	1
Grand Total	369



Enrolled in MATH210 (by Spring 2017)

Major	Count of ID
Biological & Physical Sci & (Math) ◆	30
Mathematics ● ▲ ■	12
Biology ●	10
Physics ● ▲ ■	10
Undeclared	9
Business and Commerce, General ◆	7
Pre-Engineering ● ▲ ■	7
Business Administration ◆	4
Information Technology	3
Lib Arts - Arts and Humanities	2
Drafting Architecture	1
Lib Arts - Math and Science ◆	1
Psychology ◆	1
Theatre Arts - Acting	1
Grand Total	98

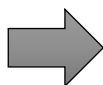
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Calculus Requirements by Degree and Major
Tracking through the Calculus Sequence

Original 2016-2017 MATH190 Cohort

Major	Count of ID
Biology ●	64
Pre-Engineering ● ▲ ■	58
Mathematics ● ▲ ■	53
Biological & Physical Sci & (Math) ◆	35
Undeclared	25
Business Administration ◆	24
Physics ● ▲ ■	22
Business and Commerce, General ◆	16
Accounting	4
Information Technology	4
Psychology ◆	4
Fine Arts, General	3
Architectural Design	2
Automotive Technology	2
Comp Graphics - Digital Imag	2
Computer Generated Imagery	2
History	2
Kinesiology	2
Lib Arts - Math and Science ◆	2
Physical Science ●	2
Pre-Allied Health	2
Social & Behavioral Sciences	2
Administration of Justice	1
Child Dev - Early Care Educ	1
Drafting Architecture	1
Language Arts	1
Lib Arts - Arts and Humanities	1
Lib Arts - Business Technology ◆	1
Photography	1
Political Science	1
Recording Technology	1
Registered Nursing	1
Sociology	1
Wildland Resources - Forestry	1
Grand Total	344



Enrolled in MATH210 (by Spring 2017)

Major	Count of ID
Pre-Engineering ● ▲ ■	6
Mathematics ● ▲ ■	4
Physics ● ▲ ■	3
Undeclared	2
Biology ●	1
Business Administration ◆	1
Lib Arts - Math and Science ◆	1
Physical Science ●	1
Grand Total	19

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Calculus Requirements by Degree and Major
Tracking through the Calculus Sequence

- Of the 89 students in the 2014-2015 cohort who enrolled in MATH210, 42 students went on to receive degrees or certificates. There were a total of 148 degrees and certificates awarded amongst the 42 students as of Winter 2018.

<u>Key Findings</u>
<ul style="list-style-type: none"> • Most degrees were awarded in Spring 2016 (n=45), followed by Spring 2017 (n=40) • 8 out of the 12 Math majors received degrees/certs • 1 out of the 3 Physics majors received degrees/certs <ul style="list-style-type: none"> ○ All 9 Math and Physics majors received a degree that either required Calculus or had Calculus as an option to satisfy the requirement

Degrees/Certificates	Count of ID
AS Biol and Phys Sci & Math	34
Cert in CSUGE	28
AA Lib Art_Math and Science	23
AS-T Mathematics	18
Cert in Inter Gen Ed Tran Curr	11
AA Lib Arts Emph Math Sciences	5
AA Social and Beh Sciences	5
AA Lib Arts_Soc and Beh Sci	3
AS-T Physics	3
AA Language Arts	3
AS Biological Sciences	2
Cert in Auto Underhood/Spec	2
AA Lib Arts_Business Tech	2
AS Automotive Technology	1
AS-T Biology	1
Cert in Biomanufacturing	1
AS Business	1
Skill Engine Rebuild/Machining	1
Cert in Water Technology	1
Cert in Auto Res & Development	1
Cert in Auto Undercar/Drivetrn	1
AS Water Technology	1
Grand Total	148

- Of the 98 students in the 2015-2016 cohort who enrolled in MATH210, 35 students went on to receive degrees or certificates. There were a total of 114 degrees and certificates awarded amongst the 35 students as of Winter 2018.

<u>Key Findings</u>
<ul style="list-style-type: none"> • The vast majority of degrees (n=87) were awarded in Spring 2017 • 6 out of the 12 Math majors received degrees/certs • 4 out of the 10 Physics majors received degrees/certs • 4 of the 7 Pre-Engineering majors received degrees/certs <ul style="list-style-type: none"> ○ All 14 Math, Physics, and Pre-Engineering majors received a degree that either required Calculus or had Calculus as an option to satisfy the requirement

Degrees/Certificates	Count of ID
AS Biol and Phys Sci & Math	25
Cert in CSUGE	21
AS-T Mathematics	16
AA Lib Art_Math and Science	12
Cert in Inter Gen Ed Tran Curr	9
AA Social and Beh Sciences	7
AS-T Physics	6
AA Lib Arts Emph Math Sciences	4
AS Biological Sciences	3
AA Liberal Arts Emph_Soc_Beh	2
AA Lib Arts_Soc and Beh Sci	2
AA Fine and Performing Arts	1
AA Lib Arts Emph_Soc and Beh	1
Cert in Cosmetology	1
AS-T Business Admin	1
AA Lib Arts_Business Tech	1
AA Language Arts	1
AS Business	1
Grand Total	114

- Of the 19 students in the 2016-2017 cohort who enrolled in MATH210, 2 students went on to receive degrees or certificates. There were a total of 5 degrees and certificates awarded amongst the 2 students as of Winter 2018.

Key Findings

- The vast majority of degrees (n=87) were awarded in Spring 2017
- 0 out of the 4 Math majors received degrees/certs
- 1 out of the 3 Physics majors received degrees/certs
- 1 of the 6 Pre-Engineering majors received degrees/certs
 - Only the Physics major received a degree that either required Calculus or had Calculus as an option to satisfy the requirement

Degrees/Certificates	Count of ID
Cert in CSUGE	2
AS-T Mathematics	1
AA Social and Beh Sciences	1
AS Biol and Phys Sci & Math	1
Grand Total	5

List of majors who received a degree (i.e. AS-T Math, AS-T Physics, or AS Pre-Engineering) which required the Calculus sequence

- Mathematics
- Pre-Engineering
- Physics
- Biological & Physical Sciences & Math
- Biology
- Business and Commerce, General
- Business Administration
- Business Management
- Computer Infrastructure_Supp
- Lib Arts - Arts and Humanities
- Electronics - Electric Tech
- Social & Behavioral Sciences
- Undeclared