



PROPOSAL

COURSE DISCIPLINE : ENGL
COURSE NUMBER : 298
COURSE TITLE (FULL) : Undergraduate Research in Professional Writing
COURSE TITLE (SHORT) : Research in Professional Writing
CALIFORNIA STATE UNIVERSITY SYSTEM C-ID :

CATALOG DESCRIPTION

ENGL 298 is intended to give undergraduate students hands-on experience in academic research while working collaboratively on projects within specific themes relating to professional pathways in English and Humanities. It allows the student to develop his or her critical thinking and writing skills to the level of proficiency required to complete original scholarly and professional research for possible submission and presentation, such as at a conference. Students will receive instruction in advanced research and in the process of writing and revising professional work. Students are expected to apply research analysis techniques and concepts learned in previous English classes, and to use their problem-solving skills in carrying out assigned projects. Students will be required to present the results of their research to the campus/to a group of faculty.

CATALOG NOTES

N/A

Total Lecture Units:3.00

Total Laboratory Units: 0.00

Total Course Units: 3.00

Total Lecture Hours:54.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 54.00

PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Type	Req. Is Being
	ENGL - 101 - Introduction to College Reading and Composition	Prerequisite	Added



And	ENGL - 102 - Critical Thinking And Literary Analysis	Recommended Preparation	Added
Or	ENGL - 104 - Critical Thinking and Argumentation	Recommended Preparation	Added

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ENGL	101	Introduction to College Reading and Composition	Read, analyze, and evaluate a variety of primarily non-fiction readings for content, context, and rhetorical merit with consideration of tone, audience, and purpose;	Yes
2	ENGL	101	Introduction to College Reading and Composition	apply a variety of rhetorical strategies in writing unified, well-organized essays directed by a well-reasoned thesis statement with persuasive support;	Yes
3	ENGL	101	Introduction to College Reading and Composition	develop varied and flexible strategies for generating, drafting, and revising essays;	Yes
4	ENGL	101	Introduction to College Reading and Composition	analyze stylistic choices in their own writing and the writing of others;	Yes
5	ENGL	101	Introduction to College Reading and Composition	write timed, in-class essays exhibiting acceptable college-level control of mechanics, organization, development, and coherence;	Yes
6	ENGL	101	Introduction to College Reading and Composition	integrate the ideas of others through paraphrasing, summarizing, and quoting without plagiarism;	Yes
7	ENGL	101	Introduction to College Reading and Composition	find, evaluate, analyze, and interpret primary and secondary sources, incorporating them into written essays using appropriate documentation format;	Yes
8	ENGL	101	Introduction to College Reading and Composition	proofread and edit essays for presentation so they exhibit no disruptive errors in English grammar, usage, or punctuation.	Yes
9	ENGL	102	Critical Thinking And Literary Analysis	Critically read and evaluate culturally diverse literary and prose texts which address critical positions and problems;	Yes



COURSE OUTLINE : ENGL 298

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10	ENGL	102	Critical Thinking And Literary Analysis	identify thesis or unifying theme;	Yes
11	ENGL	102	Critical Thinking And Literary Analysis	identify and evaluate supporting evidence (relevance, accuracy);	Yes
12	ENGL	102	Critical Thinking And Literary Analysis	distinguish fact from opinion, recognizing assumptions and faulty interpretations;	Yes
13	ENGL	102	Critical Thinking And Literary Analysis	evaluate text in terms of diction, tone, and unity;	Yes
14	ENGL	102	Critical Thinking And Literary Analysis	analyze literary texts through traditional tools of literary criticism;	Yes
15	ENGL	102	Critical Thinking And Literary Analysis	identify the ways in which expository pieces and arguments are shaped by an author's social, historical, moral, psychological, and philosophical assumptions;	Yes
16	ENGL	102	Critical Thinking And Literary Analysis	write logical, coherently structured and mechanically sound, thesis based expository and persuasive essays which demonstrate appropriate use of primary and secondary research materials;	Yes
17	ENGL	102	Critical Thinking And Literary Analysis	select topic and adjust it in terms of breadth and complexity;	Yes
18	ENGL	102	Critical Thinking And Literary Analysis	clearly establish thesis;	Yes
19	ENGL	102	Critical Thinking And Literary Analysis	demonstrate ability to refute alternate interpretations;	Yes
20	ENGL	102	Critical Thinking And Literary Analysis	write critical analyses of literary works, relating them to current issues;	Yes
21	ENGL	104	Critical Thinking and Argumentation	Critically read and evaluate expository and persuasive texts which address current issues and cultural diversity;	Yes



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22	ENGL	104	Critical Thinking and Argumentation	identify thesis or unifying theme;	Yes
23	ENGL	104	Critical Thinking and Argumentation	identify traditional reasoning and logic (including induction and deduction, denotation and connotation);	Yes
24	ENGL	104	Critical Thinking and Argumentation	identify and evaluate supporting evidence (relevance, accuracy);	Yes
25	ENGL	104	Critical Thinking and Argumentation	distinguish fact from opinion, recognize assumptions and fallacies;	Yes
26	ENGL	104	Critical Thinking and Argumentation	evaluate text in terms of diction, tone and unity;	Yes
27	ENGL	104	Critical Thinking and Argumentation	identify the ways in which expository pieces and arguments are shaped by an author's social, historical, moral and psychological, and philosophical assumptions.	Yes
28	ENGL	104	Critical Thinking and Argumentation	write logical, coherently structured and mechanically sound, thesis based expository and persuasive essays which address current issues and which demonstrate appropriate use of primary and secondary research materials;	Yes
29	ENGL	104	Critical Thinking and Argumentation	select topic and adjust it in terms of breadth and complexity;	Yes
30	ENGL	104	Critical Thinking and Argumentation	clearly establish thesis;	Yes
31	ENGL	104	Critical Thinking and Argumentation	demonstrate appropriate use of supporting evidence in terms of accuracy, relevance, and freedom from faulty assumptions and fallacies;	Yes
32	ENGL	104	Critical Thinking and Argumentation	demonstrate ability to refute counter-argument;	Yes
33	ENGL	104	Critical Thinking and Argumentation	maintain unity and coherence between paragraphs;	Yes



34	ENGL	104	Critical Thinking and Argumentation	maintain college-level prose standards (mechanics).	Yes
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EXIT STANDARDS

- 1 Organize, develop and revise original writing using appropriate tone, style and semantics;
- 2 communicate effectively in a collaborative work environment;
- 3 examine values, identify bias and prejudice and objectively summarize the views of others;
- 4 read and analyze peer-reviewed articles in the field of study;
- 5 prepare scholarly research projects, such as oral presentations, posters, and/or written work, that contain unique thought, add new knowledge to the field of study, and use proper citation format and documentation style or meet the standards of submission to an academic or literary journal;
- 6 present results of project to student peers and professors.

STUDENT LEARNING OUTCOMES

- 1 Critically read and evaluate texts for relevance, credibility, and purpose using advanced research analysis techniques;
- 2 Prepare sophisticated projects, in the form of oral presentations, posters, and/or written articles, that demonstrate appropriate application of supporting evidence from primary and secondary sources;
- 3 Prepare an oral presentation of researched work for other students or faculty.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Active reading to develop critical thinking skills <ul style="list-style-type: none"> • read and analyze peer-reviewed articles in the chosen field of study • apply active and critical reading strategies • locate ambiguities in text • identify unstated premises in texts 	8	0	8
2	Thematic Content 298A: Digital Writing and Web Literacy <ul style="list-style-type: none"> • Basics of digital environments (websites, blogs, newsletters, social media) • Appropriate form, tone, style, and requirements for digital environments • Writing for digital audiences 	20	0	20



	<ul style="list-style-type: none"> • Advanced research techniques in digital literacy, internet marketing, and online communication <p>298B: Literary Research</p> <ul style="list-style-type: none"> • Basics of literary analysis and responding to literature • Appropriate form, tone, style, and requirements for writing about literary works • Writing for academic and literary audiences <ul style="list-style-type: none"> • Advanced research techniques for writing about literature <p>298C: Writing About Science and Technology</p> <ul style="list-style-type: none"> • Basics of scientific and technical writing • Appropriate form, tone, style, and requirements for technical writing • Writing for technical and scientific audiences <ul style="list-style-type: none"> • Advanced research techniques for science and technology <p>298D: Arts and Entertainment</p> <ul style="list-style-type: none"> • Basics of arts and entertainment writing (reviews, recaps, promotional materials, treatments) • Appropriate form, tone, style, and requirements for entertainment writing • Writing for popular audiences <ul style="list-style-type: none"> • Advanced research techniques in film, TV, theater, music, dance, art/design, and videogame content <p>298E: Creative Writing and Publishing</p> <ul style="list-style-type: none"> • Basics of written communications in publishing environments • Appropriate form, tone, style, and requirements for publishing • Writing for literary audiences 			
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	<ul style="list-style-type: none"> Advanced research techniques related to submission of creative writing and publishing 			
3	<p>Writing to demonstrate critical thinking skills and knowledge of field of study</p> <ul style="list-style-type: none"> write a scholarly research article or create research presentation/poster that contains unique thought, adds new knowledge to the field of study and uses proper citation format and documentation style, or meets the standards for submission to a relevant publication develop critical thinking skills, such as building arguments that anticipate and diffuse objections, locating and using credible evidence, providing sufficient textual evidence, avoiding logical fallacies, and appealing to an audience's logic, emotion, and ethics examine values, identify bias and prejudice, and objectively summarize the views of others 	10	0	10
4	Enhance credibility through correct usage and grammar	4	0	4
5	<p>On-campus presentation of research</p> <ul style="list-style-type: none"> present written and/or spoken work to an audience of GCC faculty and students 	2	0	2
6	<p>Formulation of proposal to present research to a conference such as the:</p> <ul style="list-style-type: none"> Southern California Conference for Undergraduate Research, the UCI Community College Honors Research Conference, or the Bay Honors Symposium Present written and/or spoken work at conferences and/or in literary journals 	10	0	10
				54



OUT OF CLASS ASSIGNMENTS

- 1 written critique of scholarly articles pertinent to the specific field of study such as biology, chemistry, psychology or humanities;
- 2 preparation of an annotated bibliography that includes all sources used in the scholarly article written for the course;
- 3 preparation for oral presentations and group projects;
- 4 preparation for campus presentation of research findings to a group of peers and faculty;
- 5 documented research paper that offers new knowledge to the field of study.

METHODS OF EVALUATION

- 1 instructor analysis of student work;
- 2 class presentations;
- 3 peer review of essay drafts and revisions;
- 4 formal on-campus presentation of research.

METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations



TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	ISBN	Date
The Craft of Research	Required	The University of Chicago Press			Wayne C. Booth	9780226239736	2016
A Writer's Reference	Required	Macmillan	9		Diana Hacker	9781319057442	2018
Rules for Writers	Required	Macmillan	8		Diana Hacker	9781319018306	2016
Writing at GCC - OER Handbook	Required				GCC Faculty		
Wilde in America: Oscar Wilde and the Invention of Modern Celebrity.	Required	WW. Norton & Company		Print	David M. Friedman	9780393063172	2015
Everyone's an Author	Required	WW. Norton & Company	3	Print	Andrea A. Lunsford	978-0-393-44113-0	2020



COURSE OUTLINE : ENGL 298H

D Credit – Degree Applicable

COURSE ID

PROPOSAL

COURSE DISCIPLINE : ENGL

COURSE NUMBER : 298H

COURSE TITLE (FULL) : Honors Undergraduate Research in Professional Writing

COURSE TITLE (SHORT) : Honors Research in Professional Writing

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID :

CATALOG DESCRIPTION

ENGL 298H is intended to give undergraduate students hands-on experience in academic research while working collaboratively on projects within specific themes relating to professional pathways in English and Humanities. It allows the student to develop his or her critical thinking and writing skills to the level of proficiency required to complete original scholarly and professional research for possible submission and presentation, such as at a conference. Students will receive instruction in advanced research and in the process of writing and revising professional work. Students are expected to apply research analysis techniques and concepts learned in previous English classes, and to use their problem-solving skills in carrying out assigned projects. Students will be required to present the results of their research to the campus/to a group of faculty.

The honors course will be enhanced in one or more of the following ways:

1. Accelerated standards of reading levels, emphasizing primary and conceptual sources
2. Accelerated standards of critical thinking, including critical writing and problem-centered research
3. Emphasis on types or schools of literary criticism, including professional models of such

CATALOG NOTES

N/A

Total Lecture Units:3.00

Total Laboratory Units: 0.00

Total Course Units: 3.00

Total Lecture Hours:54.00

Total Laboratory Hours: 0.00



Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 54.00

PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Type	Req. Is Being
	ENGL - 101 - Introduction to College Reading and Composition	Prerequisite	Added
	ENGL - 102 - Critical Thinking And Literary Analysis		
	ENGL - 104 - Critical Thinking and Argumentation		

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ENGL	101	Introduction to College Reading and Composition	Read, analyze, and evaluate a variety of primarily non-fiction readings for content, context, and rhetorical merit with consideration of tone, audience, and purpose;	Yes
2	ENGL	101	Introduction to College Reading and Composition	apply a variety of rhetorical strategies in writing unified, well-organized essays directed by a well-reasoned thesis statement with persuasive support;	Yes
3	ENGL	101	Introduction to College Reading and Composition	develop varied and flexible strategies for generating, drafting, and revising essays;	Yes
4	ENGL	101	Introduction to College Reading and Composition	analyze stylistic choices in their own writing and the writing of others;	Yes
5	ENGL	101	Introduction to College Reading and Composition	write timed, in-class essays exhibiting acceptable college-level control of mechanics, organization, development, and coherence;	Yes
6	ENGL	101	Introduction to College Reading and Composition	integrate the ideas of others through paraphrasing, summarizing, and quoting without plagiarism;	Yes
7	ENGL	101	Introduction to College Reading and Composition	find, evaluate, analyze, and interpret primary and secondary sources, incorporating them into written essays using appropriate documentation format;	Yes



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8	ENGL	101	Introduction to College Reading and Composition	proofread and edit essays for presentation so they exhibit no disruptive errors in English grammar, usage, or punctuation.	Yes
9	ENGL	102	Critical Thinking And Literary Analysis	Critically read and evaluate culturally diverse literary and prose texts which address critical positions and problems;	No
10	ENGL	102	Critical Thinking And Literary Analysis	identify thesis or unifying theme;	No
11	ENGL	102	Critical Thinking And Literary Analysis	identify and evaluate supporting evidence (relevance, accuracy);	No
12	ENGL	102	Critical Thinking And Literary Analysis	distinguish fact from opinion, recognizing assumptions and faulty interpretations;	No
13	ENGL	102	Critical Thinking And Literary Analysis	evaluate text in terms of diction, tone, and unity;	No
14	ENGL	102	Critical Thinking And Literary Analysis	analyze literary texts through traditional tools of literary criticism;	No
15	ENGL	102	Critical Thinking And Literary Analysis	identify the ways in which expository pieces and arguments are shaped by an author's social, historical, moral, psychological, and philosophical assumptions;	No
16	ENGL	102	Critical Thinking And Literary Analysis	write logical, coherently structured and mechanically sound, thesis based expository and persuasive essays which demonstrate appropriate use of primary and secondary research materials;	No
17	ENGL	102	Critical Thinking And Literary Analysis	select topic and adjust it in terms of breadth and complexity;	No
18	ENGL	102	Critical Thinking And Literary Analysis	clearly establish thesis;	No
19	ENGL	102	Critical Thinking And Literary Analysis	demonstrate ability to refute alternate interpretations;	No



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20	ENGL	102	Critical Thinking And Literary Analysis	write critical analyses of literary works, relating them to current issues;	No
21	ENGL	104	Critical Thinking and Argumentation	Critically read and evaluate expository and persuasive texts which address current issues and cultural diversity;	No
22	ENGL	104	Critical Thinking and Argumentation	identify thesis or unifying theme;	No
23	ENGL	104	Critical Thinking and Argumentation	identify traditional reasoning and logic (including induction and deduction, denotation and connotation);	No
24	ENGL	104	Critical Thinking and Argumentation	identify and evaluate supporting evidence (relevance, accuracy);	No
25	ENGL	104	Critical Thinking and Argumentation	distinguish fact from opinion, recognize assumptions and fallacies;	No
26	ENGL	104	Critical Thinking and Argumentation	evaluate text in terms of diction, tone and unity;	No
27	ENGL	104	Critical Thinking and Argumentation	identify the ways in which expository pieces and arguments are shaped by an author's social, historical, moral and psychological, and philosophical assumptions.	No
28	ENGL	104	Critical Thinking and Argumentation	write logical, coherently structured and mechanically sound, thesis based expository and persuasive essays which address current issues and which demonstrate appropriate use of primary and secondary research materials;	No
29	ENGL	104	Critical Thinking and Argumentation	select topic and adjust it in terms of breadth and complexity;	No
30	ENGL	104	Critical Thinking and Argumentation	clearly establish thesis;	No
31	ENGL	104	Critical Thinking and Argumentation	demonstrate appropriate use of supporting evidence in terms of accuracy, relevance, and freedom from faulty assumptions and fallacies;	No



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32	ENGL	104	Critical Thinking and Argumentation	demonstrate ability to refute counter-argument;	No
33	ENGL	104	Critical Thinking and Argumentation	maintain unity and coherence between paragraphs;	No
34	ENGL	104	Critical Thinking and Argumentation	maintain college-level prose standards (mechanics).	No

EXIT STANDARDS

1. Organize, develop and revise original writing using appropriate tone, style and semantics;
2. communicate effectively in a collaborative work environment;
3. examine values, identify bias and prejudice and objectively summarize the views of others;
4. read and analyze peer-reviewed articles in the field of study; prepare scholarly research projects, such as oral presentations, posters, and/or written work, that contain unique thought, add new knowledge to the field of study, and use proper citation
5. format and documentation style or meet the standards of submission to an academic or literary journal;
6. present results of project to student peers and professors.

STUDENT LEARNING OUTCOMES

- 1 Critically read and evaluate texts for relevance, credibility, and purpose using advanced research analysis techniques;
- 2 Prepare sophisticated projects, in the form of oral presentations, posters, and/or written articles, that demonstrate appropriate application of supporting evidence from primary and secondary sources;
- 3 Prepare an oral presentation of researched work for other students or faculty.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Active reading to develop critical thinking skills <ul style="list-style-type: none"> • read and analyze peer-reviewed articles in the chosen field of study • apply active and critical reading strategies • locate ambiguities in text • identify unstated premises in texts 	8	0	8



2	<p>Thematic Content</p> <p>298HA: Digital Writing and Web Literacy</p> <ul style="list-style-type: none"> • Basics of digital environments (websites, blogs, newsletters, social media) • Appropriate form, tone, style, and requirements for digital environments • Writing for digital audiences • Advanced research techniques in digital literacy, internet marketing, and online communication <p>298HB: Literary Research</p> <ul style="list-style-type: none"> • Basics of literary analysis and responding to literature • Appropriate form, tone, style, and requirements for writing about literary works • Writing for academic and literary audiences • Advanced research techniques for writing about literature <p>298HC: Writing About Science and Technology</p> <ul style="list-style-type: none"> • Basics of scientific and technical writing • Appropriate form, tone, style, and requirements for technical writing • Writing for technical and scientific audiences • Advanced research techniques for science and technology <p>298HD: Arts and Entertainment</p> <ul style="list-style-type: none"> • Basics of arts and entertainment writing (reviews, recaps, promotional materials, treatments) • Appropriate form, tone, style, and requirements for entertainment writing • Writing for popular audiences • Advanced research techniques in film, TV, theater, music, dance, art/design, and videogame content. 	20	0	20
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	<p>298HE: Creative Writing and Publishing</p> <ul style="list-style-type: none">• Basics of written communications in publishing environments• Appropriate form, tone, style, and requirements for publishing• Writing for literary audiences• Advanced research techniques related to submission of creative writing and publishing			
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3	<p>Writing to demonstrate critical thinking skills and knowledge of field of study</p> <ul style="list-style-type: none"> • write a scholarly research article or create research presentation/poster that contains unique thought, adds new knowledge to the field of study and uses proper citation format and documentation style, or meets the standards for submission to a relevant publication • develop critical thinking skills, such as building arguments that anticipate and diffuse objections, locating and using credible evidence, providing sufficient textual evidence, avoiding logical fallacies, and appealing to an audience's logic, emotion, and ethics • examine values, identify bias and prejudice, and objectively summarize the views of others 	10	0	10
4	Enhance credibility through correct usage and grammar	4	0	4
5	<p>On-campus presentation of research</p> <ul style="list-style-type: none"> • present written and/or spoken work to an audience of GCC faculty and students 	2	0	2
6	<p>Formulation of proposal to present research to a conference such as the:</p> <ul style="list-style-type: none"> • Southern California Conference for Undergraduate Research, the UCI Community College Honors Research Conference, or the Bay Honors Symposium • Present written and/or spoken work at conferences and/or in literary journals 	10	0	10
				54

OUT OF CLASS ASSIGNMENTS

- 1 written critique of scholarly articles pertinent to the specific field of study, demonstrating conceptual and critical understanding of sources;
- 2 preparation of an annotated bibliography that includes all sources used in the scholarly article written for the course, with an emphasis on primary sources;
- 3 preparation for oral presentations and group projects;
- 4 preparation for campus presentation of research findings to a group of peers and faculty;



- 5 documented research paper that offers new knowledge to the field of study, engages with both primary and secondary sources, and demonstrates conceptual and critical thinking.

METHODS OF EVALUATION

- 1 instructor analysis of student work;
- 2 class presentations;
- 3 peer review of essay drafts and revisions;
- 4 formal on-campus presentation of research.

METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	ISBN	Date
The Craft of Research	Required	The University of Chicago Press			Wayne C. Booth	9780226239736	2016
A Writer's Reference	Required	Macmillan	9		Diana Hacker	9781319057442	2018
Rules for Writers	Required	Macmillan	8		Diana Hacker	9781319018306	2016
Writing at GCC - OER Handbook	Required				GCC Faculty		



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Wilde in America: Oscar Wilde and the Invention of Modern Celebrity	Required	WW. Norton & Company		Print	David M. Friedman	9780393063172	2015
Everyone's an Author	Required	WW. Norton & Company	3	Print	Andrea A. Lunsford	978-0-393-44113-0	2020



PROPOSAL

COURSE DISCIPLINE : MATH
COURSE NUMBER : 102+
COURSE TITLE (FULL) : Trigonometry with Support
COURSE TITLE (SHORT) : Trigonometry with Support
CALIFORNIA STATE UNIVERSITY SYSTEM C-ID : MATH 851

CATALOG DESCRIPTION

MATH 102+ is a course in plane trigonometry with a built-in support lab component. The course emphasizes the analytic aspects of the subject. Topics include trigonometric functions of any angle, trigonometric identities, half-angles, trigonometric equations, applications of trigonometric functions, functions, complex numbers, and polar and parametric equations. The support lab topics include plane geometry, solving algebraic equations, simplifying algebraic expressions, coordinate plane, graphing techniques and basics of Trigonometry.

CATALOG NOTES

N/A

Total Lecture Units:3.00

Total Laboratory Units: 0.50

Total Course Units: 3.50

Total Lecture Hours:54.00

Total Laboratory Hours: 36.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 90.00

PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Type	Req. Is Being
	MATH - 90 - Intermediate Algebra for BSTEM	Recommended Preparation	Added
Or	MATH - 90+ - Intermediate Algebra for BSTEM with Support	Recommended Preparation	Added



COURSE OUTLINE : MATH 102+

D Credit – Degree Applicable

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Or	MATH - 90EF - Intermediate Algebra for BSTEM	Recommended Preparation	Added
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ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	MATH	90	Intermediate Algebra for BSTEM	Solve absolute value equations and inequalities;	Yes
2	MATH	90	Intermediate Algebra for BSTEM	solve linear equations and compound inequalities;	Yes
3	MATH	90	Intermediate Algebra for BSTEM	perform operations with polynomials;	Yes
4	MATH	90	Intermediate Algebra for BSTEM	simplify complex fractions;	Yes
5	MATH	90	Intermediate Algebra for BSTEM	perform operations with radical expressions;	Yes
6	MATH	90	Intermediate Algebra for BSTEM	simplify expressions with rational exponents;	Yes
7	MATH	90	Intermediate Algebra for BSTEM	solve rational equations;	Yes
8	MATH	90	Intermediate Algebra for BSTEM	solve equations with radicals;	Yes
9	MATH	90	Intermediate Algebra for BSTEM	find the equation of a line parallel or perpendicular to a given line;	Yes
10	MATH	90	Intermediate Algebra for BSTEM	solve a system of linear equations using elimination substitution;	Yes
11	MATH	90	Intermediate Algebra for BSTEM	solve systems of linear inequalities;	Yes
12	MATH	90	Intermediate Algebra for BSTEM	find the composition of two functions;	Yes



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13	MATH	90	Intermediate Algebra for BSTEM	solve applied problems;	Yes
14	MATH	90	Intermediate Algebra for BSTEM	solve quadratic equations with real and complex solutions;	Yes
15	MATH	90	Intermediate Algebra for BSTEM	find the inverse of a function;	Yes
16	MATH	90	Intermediate Algebra for BSTEM	use the properties of logarithms to simplify and expand expressions;	Yes
17	MATH	90	Intermediate Algebra for BSTEM	solve logarithmic and exponential equations;	Yes
18	MATH	90	Intermediate Algebra for BSTEM	graph parabolas and circles centered at any point.	Yes
19	MATH	90	Intermediate Algebra for BSTEM	graph functions (linear, quadratic, exponential, logarithmic).	Yes
20	MATH	90+	Intermediate Algebra for BSTEM with Support	Solve absolute value equations and inequalities;	Yes
21	MATH	90+	Intermediate Algebra for BSTEM with Support	solve linear equations and compound inequalities;	Yes
22	MATH	90+	Intermediate Algebra for BSTEM with Support	perform operations with polynomials;	Yes
23	MATH	90+	Intermediate Algebra for BSTEM with Support	simplify complex fractions;	Yes
24	MATH	90+	Intermediate Algebra for BSTEM with Support	perform operations with radical expressions;	Yes



COURSE OUTLINE : MATH 102+

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25	MATH	90+	Intermediate Algebra for BSTEM with Support	simplify expressions with rational exponents;	Yes
26	MATH	90+	Intermediate Algebra for BSTEM with Support	solve rational equations;	Yes
27	MATH	90+	Intermediate Algebra for BSTEM with Support	solve equations with radicals;	Yes
28	MATH	90+	Intermediate Algebra for BSTEM with Support	find the equation of a line parallel or perpendicular to a given line;	Yes
29	MATH	90+	Intermediate Algebra for BSTEM with Support	solve a system of linear equations using elimination, substitution;	Yes
30	MATH	90+	Intermediate Algebra for BSTEM with Support	solve systems of linear inequalities;	Yes
31	MATH	90+	Intermediate Algebra for BSTEM with Support	find the composition of two functions;	Yes
32	MATH	90+	Intermediate Algebra for BSTEM with Support	solve applied problems;	Yes
33	MATH	90+	Intermediate Algebra for BSTEM with Support	solve quadratic equations with real and complex solutions;	Yes
34	MATH	90+	Intermediate Algebra for BSTEM with Support	find the inverse of a function;	Yes



COURSE OUTLINE : MATH 102+

D Credit – Degree Applicable

COURSE ID

35	MATH	90+	Intermediate Algebra for BSTEM with Support	use the properties of logarithms to simplify and expand expressions;	Yes
36	MATH	90+	Intermediate Algebra for BSTEM with Support	solve logarithmic and exponential equations;	Yes
37	MATH	90+	Intermediate Algebra for BSTEM with Support	graph functions (linear, quadratic, exponential, logarithmic);	Yes
38	MATH	90+	Intermediate Algebra for BSTEM with Support	graph parabolas and circles centered at any point.	Yes
39	MATH	90EF	Intermediate Algebra for BSTEM	Perform operations with polynomials;	Yes
40	MATH	90EF	Intermediate Algebra for BSTEM	simplify complex fractions;	Yes
41	MATH	90EF	Intermediate Algebra for BSTEM	perform operations with radical expressions;	Yes
42	MATH	90EF	Intermediate Algebra for BSTEM	simplify expressions with rational exponents;	Yes
43	MATH	90EF	Intermediate Algebra for BSTEM	solve rational equations;	Yes
44	MATH	90EF	Intermediate Algebra for BSTEM	solve equations with radicals;	Yes
45	MATH	90EF	Intermediate Algebra for BSTEM	find the composition of two functions;	Yes
46	MATH	90EF	Intermediate Algebra for BSTEM	solve applied problems.	Yes



EXIT STANDARDS

1. Identify special triangles and their related angle and side measures;
2. evaluate the trigonometric function of an angle in degree and radian measure;
3. manipulate and simplify a trigonometric expression;
4. solve trigonometric equations, triangles, and applications;
5. graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs;
6. evaluate and graph inverse trigonometric functions;

7. prove trigonometric identities;
8. convert between polar and rectangular coordinates and equations;
9. graph polar equations;
10. calculate powers and roots of complex numbers using DeMoivre’s Theorem;
11. represent a vector (a quantity with magnitude and direction) in the form $\langle a, b \rangle$ and $ai + bj$.

STUDENT LEARNING OUTCOMES

- 1 demonstrate the knowledge of definitions and graphs of the trigonometric functions;
- 2 verify trigonometric identities and solve trigonometric equations;
- 3 demonstrate the knowledge of vectors, complex numbers, and polar coordinates.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Preliminary Concepts <ul style="list-style-type: none"> • The rectangular coordinate system and the distance formula • Functions and relations • Inverses of functions and relations 	5	0	5



2	<p>The Trigonometric Functions</p> <ul style="list-style-type: none"> • Definition of trigonometric functions • Trigonometric functions of any angle • Right triangle trigonometry and applications • Integrated Review Topics: <ul style="list-style-type: none"> ◦ Multiply simple rational expressions ◦ Use rational expressions in conversions ◦ Find area and circumference of a circle ◦ Simplify square roots ◦ Perform operations with square roots ◦ Use the Pythagorean Theorem to find missing sides of a right triangle ◦ Find the center and radius of a circle given the equation for the circle ◦ Find the inverse of a function ◦ Similar triangles ◦ Angle relationships <ul style="list-style-type: none"> ▪ Supplementary angles ▪ Complimentary angles ▪ Corresponding angles 	9	6	15
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3	<p>Radian Measure and Graphing</p> <ul style="list-style-type: none"> • Radian measure • Linear and angular velocity • The unit circle • Graphs of functions involving $\sin x$, $\cos x$, $\tan x$, $\cot x$, $\csc x$, and $\sec x$ • Rigid and nonrigid transformations of the trigonometric functions • Other graphs involving trigonometric functions • Integrated Review Topics: <ul style="list-style-type: none"> ◦ Shift graphs of algebraic functions horizontally and vertically ◦ Find domain and range of algebraic functions ◦ Reflecting, stretching and shrinking of algebraic functions ◦ Write equations of horizontal and vertical lines ◦ Perform arithmetic with fractions involving π ◦ Find horizontal and vertical asymptotes for rational functions ◦ Identify domain and range of rational functions 	10	6	16
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4	<p>Trigonometric Identities</p> <ul style="list-style-type: none"> • Trigonometric identities • Identities involving sums and differences of two angles • The double-angle identities • The half-angle identities • Sum-to-product and product-to-sum identities • Integrated Review: <ul style="list-style-type: none"> ◦ Recognize identities in algebra ◦ Use the Fundamental Identity from Trigonometry to simplify expressions ◦ Use reciprocal identities to simplify expressions ◦ Multiply binomials ◦ Square a binomial ◦ Factor expressions into a product of two binomials ◦ Find compositions of algebraic functions ◦ Prove that an equation is not an identity ◦ Operations with rational expressions in algebra 	6	4	10
5	<p>Trigonometric Equations and the Inverse Trigonometric Functions</p> <ul style="list-style-type: none"> • Solving trigonometric equations • Inverse trigonometric functions • Integrated Review: <ul style="list-style-type: none"> ◦ Evaluate a composition of algebraic functions ◦ Identify identities in Trigonometry ◦ Solve proportions for a variable ◦ Solve for a variable in an algebraic equation ◦ Solve quadratic equations by factoring ◦ Solve quadratic equations by using the square root property ◦ Solve quadratic equations by using the quadratic formula ◦ Squaring both sides of an equation and getting extraneous roots ◦ Domain and range of the trigonometric functions 	10	6	16



	<ul style="list-style-type: none"> ◦ Finding the exact values of all six trigonometric functions 			
6	<p>Oblique Triangles</p> <ul style="list-style-type: none"> • The law of cosines • The law of sines • Areas of triangles • Vectors • Integrated Review: <ul style="list-style-type: none"> ◦ Solve proportions for x ◦ Solve proportions using the inverse sine on inverse cosine function ◦ Find the area of a triangle using the standard formula ◦ Solve right triangles ◦ Find the distance between two points with the distance formula 	8	4	12



7	<p>Complex Numbers and Polar Coordinates</p> <ul style="list-style-type: none"> • Complex numbers and their graphs • Trigonometric form of a complex number • De Moivre's theorem • Polar coordinates • Polar graphs • Parametric equations • Integrated Review: <ul style="list-style-type: none"> ◦ Simplify square roots ◦ Add and subtract binomials ◦ Multiply binomials ◦ Find nth roots with 1/n notation ◦ Solve cubic equations ◦ Find sine and cosine of large angles 	6	4	10
8	<p>Affective Domain</p> <ul style="list-style-type: none"> • Study plans • Mindset (growth, resilience, hardiness and grit) • Reading and cognitive techniques • Study and test taking skills 	0	6	6
				90

OUT OF CLASS ASSIGNMENTS

- 1 computer or graphing calculator assignments;
- 2 homework (e.g. problem sets).

METHODS OF EVALUATION

- 1 group assignments and projects;
- 2 quizzes;
- 3 4-8 chapter examinations;
- 4 a comprehensive final examination is required.

METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion



COURSE OUTLINE : MATH 102+
D Credit – Degree Applicable
COURSE ID

Multimedia

- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Trigonometry	Required	Pearson	5	Print	Dugopolski, Mark	978- 013520733 8	2019



PROPOSAL

COURSE DISCIPLINE : MATH
COURSE NUMBER : 102S
COURSE TITLE (FULL) : Lab Support for Trigonometry
COURSE TITLE (SHORT) : Lab Support for Trigonometry
CALIFORNIA STATE UNIVERSITY SYSTEM C-ID :

CATALOG DESCRIPTION

MATH 102S is a lab course to complement MATH 102 in the development and practice of essential study techniques and course material for success in Trigonometry. Topics include plane geometry, solving algebraic equations, simplifying algebraic expressions, coordinate plane, graphing techniques and basics of Trigonometry.

CATALOG NOTES

N/A

Total Lecture Units:0.00

Total Laboratory Units: 0.50

Total Course Units: 0.50

Total Lecture Hours:0.00

Total Laboratory Hours: 36.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 36.00

PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Type	Req. Is Being
	MATH - 15 - Foundations of Algebra	Recommended Preparation	Added
	MATH - 102 - Trigonometry	Corequisite	Added



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	MATH	15	Foundations of Algebra	Add, subtract, multiply, and divide real numbers;	Yes
2	MATH	15	Foundations of Algebra	convert between percents, decimals and fractions;	Yes
3	MATH	15	Foundations of Algebra	solve introductory linear equations and inequalities;	Yes
4	MATH	15	Foundations of Algebra	simplify introductory exponential expressions;	Yes
5	MATH	15	Foundations of Algebra	add, subtract, multiply and divide polynomials;	Yes
6	MATH	15	Foundations of Algebra	graph introductory linear equations and inequalities;	Yes
7	MATH	15	Foundations of Algebra	find the equation of a line;	Yes
8	MATH	15	Foundations of Algebra	solve linear systems using graphing, substitution and elimination methods;	Yes
9	MATH	15	Foundations of Algebra	factor polynomials;	Yes
10	MATH	15	Foundations of Algebra	use algebra to solve applied problems;	Yes
11	MATH	15	Foundations of Algebra	demonstrate knowledge of test-taking strategies and study skills.	Yes
12	MATH	102	Trigonometry	Identify special triangles and their related angle and side measures;	Yes
13	MATH	102	Trigonometry	Evaluate the trigonometric function of an angle in degree and radian measure;	Yes
14	MATH	102	Trigonometry	Manipulate and simplify a trigonometric expression;	Yes
15	MATH	102	Trigonometry	Solve trigonometric equations, triangles, and applications;	Yes
16	MATH	102	Trigonometry	Graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs;	Yes
17	MATH	102	Trigonometry	Evaluate and graph inverse trigonometric functions;	Yes
18	MATH	102	Trigonometry	Prove trigonometric identities;	Yes



COURSE OUTLINE : MATH 102S

C Credit – Not Degree Applicable

COURSE ID

19	MATH	102	Trigonometry	Convert between polar and rectangular coordinates and equations;	Yes
20	MATH	102	Trigonometry	Graph polar equations;	Yes
21	MATH	102	Trigonometry	Calculate powers and roots of complex numbers using DeMoivre's Theorem;	Yes
22	MATH	102	Trigonometry	Represent a vector (a quantity with magnitude and direction) in the form $\langle a,b \rangle$ and $ai+bj$.	Yes

EXIT STANDARDS

1. Identify special triangles and their related angle and side measures;
2. evaluate the trigonometric function of an angle in degree and radian measure;
3. manipulate and simplify a trigonometric expression;
4. solve trigonometric equations, triangles, and applications;
5. graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs;
6. evaluate and graph inverse trigonometric functions;
7. prove trigonometric identities;
8. convert between polar and rectangular coordinates and equations;
9. graph polar equations;
10. calculate powers and roots of complex numbers using DeMoivre's Theorem;
11. represent a vector (a quantity with magnitude and direction) in the form $\langle a,b \rangle$ and $ai+bj$.

STUDENT LEARNING OUTCOMES

- 1 Demonstrate the ability to use algebraic skills in support of Trigonometry.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

Description	Lecture	Lab	Total Hours
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1	<p>The Trigonometric Functions</p> <ul style="list-style-type: none"> • Multiply simple rational expressions • Use rational expressions in conversions • Find area and circumference of a circle • Simplify square roots • Perform operations with square roots • Use the Pythagorean Theorem to find missing sides of a right triangle • Find the center and radius of a circle given the equation for the circle • Find the inverse of a function • Similar triangles • Angle relationships <ul style="list-style-type: none"> ◦ Supplementary angles ◦ Complimentary angles ◦ Corresponding angles 	0	6	6
2	<p>Radian Measure and Graphing</p> <ul style="list-style-type: none"> • Shift graphs of algebraic functions horizontally and vertically • Find domain and range of algebraic functions • Reflecting, stretching and shrinking of algebraic functions • Write equations of horizontal and vertical lines • Perform arithmetic with fractions involving pi • Find horizontal and vertical asymptotes for rational functions • Identify domain and range of rational functions 	0	6	6
3	<p>Trigonometric Identities</p> <ul style="list-style-type: none"> • Recognize identities in algebra • Use the Fundamental Identity from Trigonometry to simplify expressions • Use reciprocal identities to simplify expressions • Multiply binomials • Square a binomial • Factor expressions into a product of two binomials • Find compositions of algebraic functions • Prove that an equation is not an identity • Operations with rational expressions in algebra 	0	4	4



4	<p>Trigonometric Equations and the Inverse Trigonometric Functions</p> <ul style="list-style-type: none"> • Evaluate a composition of algebraic functions • Identify identities in Trigonometry • Solve proportions for a variable • Solve for a variable in an algebraic equation • Solve quadratic equations by factoring • Solve quadratic equations by using the square root property • Solve quadratic equations by using the quadratic formula • Squaring both sides of an equation and getting extraneous roots • Domain and range of the trigonometric functions • Finding the exact values of all six trigonometric functions 	0	6	6
5	<p>Oblique Triangles</p> <ul style="list-style-type: none"> • Solve proportions for x • Solve proportions using the inverse sine on inverse cosine function • Find the area of a triangle using the standard formula • Solve right triangles • Find the distance between two points with the distance formula 	0	4	4
6	<p>Complex Numbers and Polar Coordinates</p> <ul style="list-style-type: none"> • Simplify square roots • Add and subtract binomials • Multiply binomials • Find nth roots with 1/n notation • Solve cubic equations • Find sine and cosine of large angles 	0	4	4
7	<p>Affective Doman</p> <ul style="list-style-type: none"> • Study plans • Mindset (growth, resilience, hardiness and grit) • Reading and cognitive techniques • Study and test taking skills 	0	6	6
				36



OUT OF CLASS ASSIGNMENTS

- 1 computer or graphing calculator assignments;
- 2 reading and working exercises (e.g. working selected problems from textbook exercise sets).

METHODS OF EVALUATION

- 1 worksheets reinforcing trigonometric concepts;
- 2 quizzes;
- 3 examinations.

METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration

- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Trigonometry	Required	Pearson	5	Print	Dugopolski, Mark	013520733 8	2019