

PROPOSAL

COURSE DISCIPLINE: ATHPE

COURSE NUMBER: 151

COURSE TITLE (FULL): Women's Basketball Conditioning

COURSE TITLE (SHORT): Women's Basketball Conditioning

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID:

CATALOG DESCRIPTION

ATHPE 151 is designed for the student-athlete interested in conditioning for intercollegiate women's basketball. The course is intended to provide strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and game plays for women's basketball.

CATALOG NOTES

ATHPE 151 is designed for the intercollegiate women's basketball team. May be taken 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

PRECONDITIONS FOR ENROLLMENT

None

ENTRY STANDARDS

	Subject	Number	Title	Description	Include	l
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1	explain intermediate knowledge of basketball biomechanics such as footwork, shooting, blocking, passing and dribbling	Yes
2	demonstrate intermediate techniques of basketball biomechanics such as footwork, shooting, blocking, passing and dribbling	Yes
3	engage in cardiovascular and mental training at moderate to vigorous levels	Yes
4	integrate intermediate basketball knowledge to strength training movements	Yes
5	apply strength training exercises to basketball specific movements	Yes

EXIT STANDARDS

- 1 perform an advanced level of physical skills relative to participation in intercollegiate competition
- 2 execute offensive and defensive strategies used at the collegiate competitive level
- 3 demonstrate basketball specific movements at moderate to advanced levels
- 4 demonstrate basketball specific strength and conditioning techniques
- 5 increase physical fitness, strength and basketball specific techniques

STUDENT LEARNING OUTCOMES

- develop and apply a strength training program as it applies to intercollegiate women's basketball
- develop and apply a cardiovascular training program as it applies to intercollegiate women's basketball
- 3 demonstrate and apply safety rules and procedures to effectively participate in a physical movement environment

COURSE CONTENT WITH INSTRUCTIONAL HOURS

Description	Lecture	Lab	Total
			Hours



		1		
1	Core Upper body Lower body Knee care	0	28	28
2	Plyometric Training for Basketball • Bounding and leaping drills • Battling ropes • Sparq ladder • Agility drills	0	12	12
3	 Situational Training in Basketball Defensive and offensive training strategies Team work between defensive positions Team work between offensive positions 	0	12	12
4	Cardiovascular Training in Basketball • Sprinting endurance • Dynamic explosive movements	0	24	24
5	Application of Rules in Basketball • Defensive rule interpretation and strategies • Offensive rule interpretation and strategies	0	5	5
				81

OUT OF CLASS ASSIGNMENTS

- 1 fitness analysis (e.g. body weight, body composition, recognized perceived exertion)
- 2 field activities (e.g. physical exercise to enhance in-class activity)

METHODS OF EVALUATION

- 1 demonstration
- 2 group participation
- 3 one repetition strength tests (e.g. one repetition of maximum weight for squats)
- 4 timed sprints



5 multiple repetition strength tests (e.g. timed push-ups)

6 static strength tests

METHODS OF INSTRUCTION
Lecture
☑ Laboratory
Studio
Discussion
Multimedia
☐ Tutorial
Independent Study
Collaboratory Learning
☑ Demonstration
Field Activities (Trips)
Guest Speakers

TEXTBOOKS

Presentations

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
2019-20 and 2020-21 NCAA Women's Basketball Rules and Interpretations	Required				National Collegiate Athletics Association		2020



PROPOSAL

COURSE DISCIPLINE: ATHPE

COURSE NUMBER: 152

COURSE TITLE (FULL): Men's Basketball Conditioning

COURSE TITLE (SHORT): Men's Basketball Conditioning

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID:

CATALOG DESCRIPTION

ATHPE 152 is designed for the student-athlete interested in conditioning for intercollegiate men's basketball. The course is intended to provide strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and game plays for men's basketball.

CATALOG NOTES

ATHPE 152 is designed for the intercollegiate men's basketball team. May be taken 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

PRECONDITIONS FOR ENROLLMENT

None



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				explain intermediate knowledge of basketball biomechanics such as footwork, shooting, blocking, passing and dribbling	Yes
2				demonstrate intermediate techniques of basketball biomechanics such as footwork, shooting, blocking, passing and dribbling	Yes
3				engage in cardiovascular and mental training at moderate to vigorous levels	Yes
4				integrate intermediate basketball knowledge to strength training movements	Yes
5				apply strength training exercises to basketball specific movements	Yes

EXIT STANDARDS

- 1 perform an advanced level of physical skills relative to participation in intercollegiate competition
- 2 execute offensive and defensive strategies used at the collegiate competitive level
- 3 demonstrate basketball specific movements at moderate to advanced levels
- 4 demonstrate basketball specific strength and conditioning techniques
- 5 increase physical fitness, strength and basketball specific techniques

STUDENT LEARNING OUTCOMES

- 1 develop and apply a strength training program as it applies to intercollegiate men's basketball
- 2 develop and apply a cardiovascular training program as it applies to intercollegiate men's basketball
- 3 demonstrate and apply safety rules and procedures to effectively participate in a physical movement environment



COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
	Strength Training for Basketball			
1	CoreUpper bodyLower bodyKnee care	0	28	28
	Plyometric Training for Basketball			
2	 Bounding and leaping drills Battling ropes Sparq ladder Agility drills 	0	12	12
	Situational Training in Basketball			
3	 Defensive and offensive training strategies Team work between defensive positions Team work between offensive positions 	0	12	12
	Cardiovascular Training in Basketball			
4	Sprinting endurance Dynamic explosive movements	0	24	24
	Application of Rules in Basketball			
5	Defensive rule interpretation and strategies Offensive rule interpretation and strategies	0	5	5
		•		81

OUT OF CLASS ASSIGNMENTS

- 1 fitness analysis (e.g. body weight, body composition, recognized perceived exertion)
- 2 field activities (e.g. physical exercise to enhance in-class activity)



METHODS OF EVALUATION

- 1 demonstration
- 2 group participation
- 3 one repetition strength tests (e.g. one repetition of maximum weight for squats)
- 4 timed sprints
- 5 multiple repetition strength tests (e.g. timed push-ups)
- 6 static strength tests

METHODS OF INSTRUCTION

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

TEXTBOOKS

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
2019-2020 NCAA Men's Basketball Rules and Interpretations	Required				National Collegiate Athletics Association		2020



PROPOSAL

COURSE DISCIPLINE: ATHPE COURSE

NUMBER: 180

COURSE TITLE (FULL): Esports

COURSE TITLE (SHORT): Esports

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID:

CATALOG DESCRIPTION

ATHPE 180 is an advanced course designed for students who plan to compete at the collegiate level in esports. This course emphasizes advanced skill, theory, tactics, communication, strategy and intercollegiate competition. Student-athletes are required to meet the standards of the California Community College Athletic Association (CCCAA) eligibility guidelines and decorum policies and/or those of the National Esports Association (NEA).

CATALOG NOTES

ATHPE 180 is designed for the intercollegiate esports team. This course does not meet Physical Education graduation requirements.

Total Lecture Units:1.50

Total Laboratory Units: 1.00

Total Course Units: 2.50

Total Lecture Hours:27.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

PRECONDITIONS FOR ENROLLMENT

None



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				operate a key board and/or mouse or game console	Yes
2				access stable internet for practice and tournament play	Yes
3				participate in rigorous physical and mental activity	Yes
4				utilize verbal communication necessary for collegiate competition	Yes
5				demonstrate how to apply workable solutions within a team environment	Yes

EXIT STANDARDS

- 1. develop an appreciation of esports in terms of sportsmanship and fair play, practice ethic, and teamwork
- 2. develop a high skill level in esports
- 3. analyze and understand offensive and defensive strategies as they apply to competitive situations
- 4. recognize the role of nutrition in athletic performance
- 5. apply and break down offensive and defensive schemes
- 6. integrate conditioning and strength training into weekly practices
- 7. demonstrate the ability to work with a team as a unit and develop team concepts
- 8. identify professional roles and opportunities for amateur and professional esports
- 9. identify the role of the California Community College Athletic Association (CCCAA) and/or NCAA to off-season training and competition
- 10. Evaluate and explain the structural and cultural barriers that limit players of color, females, LGBTQ and disadvantaged in the gaming community.

STUDENT LEARNING OUTCOMES

- 1 implement and apply technical and tactical skills necessary for collegiate competition
- 2 integrate and execute advanced cooperative skills needed to perform at a high level of play
- 3 demonstrate and apply safety rules and procedures to effectively participate in a collegiate sport

COURSE CONTENT WITH INSTRUCTIONAL HOURS

Description	Lecture	Lab	Total	Ì
			Hours	



_ `	COLLEGE						
	Team Philosophies and Rules • Sportsmanship						
1	Team rules	9	0	9			
'	Individual/team goal setting		Ü	J			
	NCAA rules and regulations						
	CCCAA Decorum Policies						
		Ţ					
	Safety for eSports						
	Posture and injury prevention						
2	Stretching	9	0	9			
	Hydration/Nutrition Mental health						
	Hygiene						
	Fundamental Conditioning Skills for eSports						
	T undamental conditioning chills for coports						
3	Agility	0	16	16			
٥	Coordination	U	10	10			
	Muscular strength and range of motion						
	Muscular and cardiovascular endurance						
	Advanced Fundamental Skills in Esports						
	Hand-eye coordination						
	Macro skills						
4	Micro skills	0	19	19			
	Personal mechanics		10	13			
	Positioning						
	Focus Reaction time						
	Information seeking and processing						
	Advanced Game Strategy						
	37						
	• Timing						
5	• Map control	0	19	19			
	Team awareness						
	Decision making processObjective control						
	- Objective control						



	Understanding Team Dynamics			
6	 Creating a positive environment Controlling emotions Effective communication Individual roles Adapting play style 	8	0	8
	Definitions of Diversity, Inclusion, inequality and discrimination in Sports Competition			
7	 Gender Race/ethnicity Sexuality Religion	1	0	1
		<u>'</u>		81

OUT OF CLASS ASSIGNMENTS

- game evaluation (e.g. written evaluations regarding positive and negative performances with player feedback)
- 2 goal setting (e.g. written re-evaluation of goal performance every week)
- 3 game analysis (e.g. written summary and review of game film both team and individual)
- 4 statistical scouting (e.g. evaluation of individual or team game statistics)

METHODS OF EVALUATION

- 1 written play exams (e.g. diagram test for defense)
- 2 video and statistical analysis of practices and games
- 3 competitions

Independent Study

METHODS OF INSTRUCTION Lecture Laboratory Studio Discussion Multimedia Tutorial



☑ Demonstration

Field Activities (Trips)

☑ Guest Speakers

Presentations

TEXTBOOKS

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
IESF Competition Regulations	Supplemental	IESF			International ESports Federation		2020
Understanding Esports An Introduction to the Global Phenomenon	Supplemental	Lexington Books	1		Edited by Ryan Rogers	978-1-4985 -8980-2	2019
Raising the Stakes E- Sports and the Professionalization of Computer Gaming	Supplemental	MIT Press	1	Paperback	TL Taylor	978026201 7374	2015



PROPOSAL

COURSE DISCIPLINE: BIOL

COURSE NUMBER: 140

COURSE TITLE (FULL): Introduction to Biotechnology

COURSE TITLE (SHORT): Intro to Biotech

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID: Biotech 101

CATALOG DESCRIPTION

BIOL 140 is a general introduction of biology as it relates to the field of biotechnology. Topics include the fundamental chemical processes common in prokaryotic and eukaryotic biology, chemistry of bio-molecules (proteins, enzymes, nucleic acids and lipids), cellular and molecular biology, basic immunology, and classical and molecular genetics with an emphasis on gene expression and genetic engineering. Lecture content also includes the history, business and ethics of biotechnology. The laboratory addresses basic skills and techniques common to the biotechnology industry. Laboratory topics include the measurement of activity and quantity of proteins, growth and manipulation of bacteria, genetic engineering and antibody methods. This course is intended for, but not limited to, students majoring in biotechnology and as a general education option for all students, including non-majors.

CATALOG NOTES

N/A

Total Lecture Units:3.00

Total Laboratory Units: 1.00

Total Course Units: 4.00

Total Lecture Hours:54.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 108.00



PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Туре	Req. Is Being
	CHEM - 110 - Elements of General Chemistry	Recommended Preparation	Added
Or	CHEM - 120 - Fundamentals Of College Chemistry (Inorganic)	Recommended Preparation	Added
&	ENGL - 101 - Introduction to College Reading and Composition	Recommended Preparation	Added
&	MATH - 100 - College Algebra	Recommended Preparation	Added

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	CHEM			perform laboratory experiments correctly using appropriate techniques and safety	Yes
				procedures;	

2	CHEM	120	Fundamentals Of College Chemistry (Inorganic)	identify and describe basic chemical data, rules, and laws.	Yes
3	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
4	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
5	ENGL	101	Introduction to College Reading and Composition	integrate the ideas of others through paraphrasing, summarizing, and quoting without plagiarism;	Yes
6	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
7	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



8	MATH	100	College Algebra	Analyze the following functions: polynomial, rational, radical, absolute value, exponential and logarithmic (including definitions, evaluation, and domain and range);	Yes
9	MATH	100	College Algebra	graph functions, including asymptotic behavior, intercepts, vertices and transformations;	Yes
10	MATH	100	College Algebra	perform operations on functions;	Yes
11	MATH	100	College Algebra	solve equations including: linear, polynomial, radical, rational, absolute value, exponential and logarithmic;	Yes
12	MATH	100	College Algebra	model and solve STEM application problems;	Yes

Exit Standards

- 1. List the morphologic and chemical differences between prokaryotic and eukaryotic cells
- 2. Define and distinguish among atoms, molecules, compounds, chemical bonds, mechanisms of chemical bond formation, and components of biological molecules
- 3. Construct the flow diagram of gene expression from DNA to protein
- 4. Translate the triplet code of DNA into primary protein structure
- 5. Assess the role of basic Mendelian genetics
- 6. Compare and contrast current applications of biotechnology to the areas of medicine, agriculture, diagnostics, and the environment
- 7. Explain evolution from a genetic perspective
- 8. Evaluate a recent development in the field of biotechnology from an ethical perspective
- 9. Demonstrate pipetting skills
- 10. Explain the importance of Good Laboratory Practices and record keeping
- 11. Prepare and analyze graphs
- 12. Explain how an antibody-based assay works (e.g. ELISA)
- 13. Perform bacterial transformation



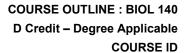
- 14. Use of aseptic techniques in lab procedures, such as handling of bacteria, microbiology and molecular biology work.
- 15. Demonstrate proficiency in basic molecular techniques (e.g. DNA and protein analysis techniques)
- 16. Identify parts of a microscope
- 17. Use a microscope to view specimens
- 18. Employ a lab protocol and explain deviations from the protocol

STUDENT LEARNING OUTCOMES

- 1. Analyze the differences between eukaryote and prokaryote cell structures and the importance of the four biomolecules.
- 2. Apply the concepts of genetics and gene expression to applications in biotechnology and biomanufacturing.
- 3. Demonstrate basic laboratory and safety skill, Good Laboratory Practices as defined by industry standards, and record keeping.
- 4. Demonstrate basic molecular biology techniques in protein, antibodies, and DNA analysis pertaining to biotechnology.

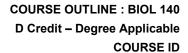
COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
	Overview of biotechnology			
1	 History of biotechnology GMOS (genetically modified organisms) and ethical aspects of biotechnology (e.g. gene manipulation) Careers in biotechnology 	7	0	7
2	Cloning, recombinant DNA technology PCR (polymerase chain reaction) Gel electrophoresis Enzymes	6	0	6



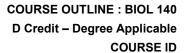


	Applications			
3	Applications • Medicine • Agriculture • Diagnostics • Environment/Energy • Fuels	2	0	2
4	Atoms Molecules Compounds Mechanisms of chemical bond formation Biomolecule structures and features: carbohydrates, lipids, proteins, nucleic acids	6	0	6
5	Cell biology (prokaryotic/eukaryotic) • Morphologic differences • Differences in DNA • Differences in gene expression	6	0	6
6	Ouble-stranded DNA molecule Alpha-helix DNA replication Meiosis and mitosis	5	0	5
7	Gene expression and the genetic code • Transcription from DNA to mRNA • Translation from mRNA to a protein	7	0	7
8	Basic Mendelian genetics including inheritance of traits	4.5	0	4.5
9	Evolution from the genetic perspective	3	0	3





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10	Basic physiology such as	3	0	3
	Homeostasis The immune system			
	Introduction to Energy/Metabolism			
11	Photosynthesis Cellular respiration	4.5	0	4.5
	Introduction to biotechnology and laboratory			
12	 Good manufacturing practices (aseptic and sterile techniques) Introduction to laboratory equipment and laboratory safety 	0	3	3
	Protein techniques			
13	Protein assays Introduction to enzymes	0	5	5
	DNA techniques			
14	DNA electrophoresisBacterial transformationIsolation of plasmid DNA/restriction digestion	0	7	7
	Antibody methods			
15	ELISA assay Home pregnancy test	0	3	3
	Microbiology techniques			
16	 Streaking bacteria Use of microscope Streaking bacteria Gram staining 	0	8	8





17	Basic lab skills Laboratory measurements (including accuracy versus precision) The pH meter, working safely with acids and bases) Pipetting skills	0	8	8				
18	Good Laboratory Practices (record keeping, following protocols) Laboratory notebook documentation	0	6	6				
19	• Lab safety guidelines • Aseptic and sterile techniques • Disposal of hazardous materials, use of MSDS (Material Safety Data Sheets)	0	8	8				
20	Basic lab skills • The metric system • Graphs	0	6	6				
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OUT OF CLASS ASSIGNMENTS

- 1 Field trip
- 2 Reading assigned chapters in course textbook(s), laboratory manual, and/or relevant scientific articles
- Maintaining lab notebook that contains laboratory protocols (e.g. a written protocol that includes the title, purpose, materials needed, procedures, and expected results)
- 4 Homework assignment aimed at explaining and understanding major concept (e.g. problem solving on concept of protein synthesis, metabolism, and DNA replication) 5 Pre-lab quizzes.

METHODS OF EVALUATION

- 1 Class presentation on relevant topics in biotechnology.
- 2 Regular class and laboratory activities, experiments related to course topics.
- Writing assignments that assess the ability to apply the theory of Good Laboratory Pracitices to reports and lab notebooks.
- 4 Laboratory practica that assess the ability to prepare and analyze graphs, follow a protocol, demonstrate basic lab skills and workplace competency, and explain deviations from the protocol.



5 In class objective written examinations and quizzes that test for definitions and application of major biological concepts.

METHODS OF INSTRUCTION

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

TEXTBOOKS

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
Introduction to Biotechnology	Required	Pearson	4	print	Thienman, Willian J.	978- 013465019 7	2018
Campbell Essential Biology	Required	Pearson	7	Print	Simon, Eric J	978- 013481294 6	2018
Campbell Essential Biology with Physiology	Supplemental	Pearson	6	Print	Simon, Eric J.	032160207 2	2018
Introduction to Biotechnology	Required	LibreTexts	1	Electronic	Orange County Biotechnology Education Collaborative	None, Free online	2020
. Basic Laboratory Methods for Biotechnology	Supplementa I	Pearson	2	Print; classic	Seidman, Lisa A.	978032157 0147	2009



PROPOSAL

COURSE DISCIPLINE: BIOL

COURSE NUMBER: 141

COURSE TITLE (FULL): Applied Biotechnology I with Laboratory

COURSE TITLE (SHORT): Applied Biotech I

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID: BIOT C-ID 150

CATALOG DESCRIPTION

BIOL 141 prepares students for the biotechnology industry by emphasizing the core concepts practiced in a bioscience laboratory. Topics include laboratory math, basic chemistry of buffers, laboratory safety, quality control, biological molecules, gene expression, cell structure and molecular biology techniques. This course introduces students to standard biotechnology laboratory skills including laboratory measurements, preparation of media and solutions, data collection and evaluation, basic separation methods, molecular techniques, aseptic techniques and documentation. Good communication and collaborative work are emphasized. This course is intended for, but not limited to, students preparing for a career in biotechnology.

CATALOG NOTES

N/A

Student will not receive unit credit if BIOL 298 has been taken with a grade of "C" or better.

Total Lecture Units:2.00

Total Laboratory Units: 2.00

Total Course Units: 4.00

Total Lecture Hours:36.00

Total Laboratory Hours: 108.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 144.00



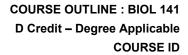
PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Туре	Req. Is Being
Or	BIOL - 101 - General Biology I	Recommended Preparation	Added
Or	BIOL - 112 - Microbiology	Recommended Preparation	Added
Or	BIOL - 122 - Introduction to Biology	Recommended Preparation	Added
&	CHEM - 110 - Elements of General Chemistry	Recommended Preparation	Added
Or	CHEM - 120 - Fundamentals Of College Chemistry (Inorganic)	Recommended Preparation	Added
&	ENGL - 101 - Introduction to College Reading and Composition	Recommended Preparation	Added
&	MATH - 100 - College Algebra	Recommended Preparation	Added
	BIOL - 140 - Introduction to Biotechnology	Recommended Preparation	Added

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	BIOL	101	General Biology I	Identify the properties of lipids, carbohydrates, proteins, and nucleic acids;	Yes
2	BIOL	101	General Biology I	• • • • • • • • • • • • • • • • • • • •	
3	BIOL	101	General Biology I	describe and identify the different stages in mitosis;	Yes

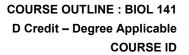
4	BIOL	101	General Biology I	eneral Biology I describe the processes of DNA replication, transcription, and translation;	
5	BIOL	101	General Biology I	al Biology I explain the basic mechanisms of gene regulation in prokaryotes and eukaryotes.	
6	BIOL	101	General Biology I		
7	BIOL	101	General Biology I	demonstrate proficiency with data collection, analysis, and graphical representation.	Yes
8	BIOL	112	Microbiology	demonstrate a general understanding of the taxonomy and major characteristics of the various microorganisms	No





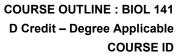
9	BIOL	112	Microbiology	demonstrate general knowledge of the physical and chemical structure of prokaryotes and eukaryotes	Yes
10	BIOL	112	Microbiology	demonstrate an understanding of the biochemical processes of the cell, including cell respiration, DNA replication, genetic recombination, transcription, translation, and cellular transport	Yes
11	BIOL	112	Microbiology	demonstrate an understanding of the physical and chemical methods and mechanisms used to control microbial growth	Yes
12	BIOL	112	Microbiology	demonstrate proper aseptic techniques and proficiency in performing various staining procedures and biochemical tests on microorganisms	Yes
13	BIOL	122	Introduction to Biology	Describe the structure of atoms, the properties of water and structure and function of biological macromolecules;	Yes
14	BIOL	122	Introduction to Biology	describe the flow of information from DNA to protein;	Yes
15	BIOL	122	Introduction to Biology	describe the mechanisms of evolution including natural selection;	No
16	BIOL	122	Introduction to Biology	compare prokaryotic and eukaryotic cells, and describe the structure and function of eukaryotic organelles;	Yes

17	CHEM	110	Elements of General Chemistry	clearly explain qualitative chemical concepts and trends;	Yes
18	CHEM	110	Elements of General Chemistry	perform laboratory experiments correctly using appropriate techniques and safety procedures;	Yes
19	CHEM	110	Elements of General Chemistry	<u> </u>	
20	CHEM	120	Fundamentals Of College Chemistry (Inorganic)	evaluate scientific statements and develop an opinion as to their validity	Yes





21	CHEM	120	Fundamentals Of College Chemistry (Inorganic)	identify and describe basic chemical data, rules, and laws.	Yes
22	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
23	ENGL	101	Introduction to College Reading and Composition	integrate the ideas of others through paraphrasing, summarizing, and quoting without plagiarism;	Yes
24	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
25	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
26	MATH	100	College Algebra	Analyze the following functions: polynomial, rational, radical, absolute value, exponential and logarithmic (including definitions, evaluation, and domain and range);	Yes
27	MATH	100	College Algebra	graph functions, including asymptotic behavior, intercepts, vertices and transformations;	Yes
28	MATH	100	College Algebra	perform operations on functions;	Yes
29	MATH	100	College Algebra	solve equations including: linear, polynomial, radical, rational, absolute value, exponential and logarithmic;	Yes
30	MATH	100	College Algebra	model and solve STEM application problems;	Yes
31	BIOL	140	Introduction to Biotechnology	List the morphologic and chemical differences between prokaryotic and eukaryotic cells	Yes
32	BIOL	140	Introduction to Biotechnology	Define and distinguish among atoms, molecules, compounds, chemical bonds, mechanisms of chemical bond formation, and components of biological molecules	Yes





33	BIOL	140	Introduction to	Construct the flow diagram of gene	Yes
			Biotechnology	expression from DNA to protein	
34	BIOL	140	Introduction to	Translate the triplet code of DNA into	Yes
			Biotechnology	primary protein structure	
35	BIOL	140	Introduction to	Introduction to Assess the role of basic Mendelian	
			Biotechnology	genetics	
36	BIOL	140	Introduction to	Compare and contrast current	Yes
			Biotechnology	applications of biotechnology to the	
				areas of medicine, agriculture,	
				diagnostics, and the environment	
37	BIOL	140	Introduction to		Yes
01	DIOL	140	Biotechnology	Evaluate a recent development in the field of biotechnology from an ethical	103
20	BIOL	110	Introduction to	perspective	Yes
38	BIOL	140	Introduction to Biotechnology	Demonstrate pipetting skills	
39	BIOL	140	Introduction to	Explain the importance of Good	Yes
			Biotechnology	Laboratory Practices and record keeping	
40	BIOL	140	Introduction to	Prepare and analyze graphs	
	1.01	•	Biotechnology	r repare and analyze graphs	Yes
41	BIOL	140	Introduction to	Explain how an antibody-based assay	Yes
			Biotechnology	works (e.g. ELISA)	
42	BIOL	140	Introduction to	Perform bacterial transformation	Yes
			Biotechnology		
42	BIOL	140	Introduction to	Use of aseptic techniques in lab	Yes
			Biotechnology	procedures, such as handling of	
				bacteria, microbiology and molecular	
				biology work.	
44	BIOL	140	Introduction to	Demonstrate proficiency in basic	Yes
			Biotechnology	molecular techniques (e.g. DNA and	
				protein analysis techniques)	
45	BIOL	140	Introduction to	Identify parts of a microscope	Yes
			Biotechnology	, , , , , , , , , , , , , , , , , , , ,	
46	BIOL	140	Introduction to	Use a microscope to view specimens	Yes
			Biotechnology		



47	BIOL	_	Dietechnology	Employ a lab protocol and explain deviations from the protocol	Yes
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EXIT STANDARDS

- 1. Describe cell structure
- 2. Apply principals of basic chemistry of buffers and pH to biological molecules
- 3. Define and distinguish among biological molecules
- 4. Construct the flow diagram of gene expression from DNA to protein
- 5. Explain recombinant DNA
- 6. Convert between metric units
- 7. Perform basic dilutions
- 8. Perform calculations related to reagents, solutions and media formulations
- 9. Demonstrate Good Laboratory Practices (as defined by industry) and record keeping in a laboratory notebook
- 10. Prepare and analyze graphs
- 11. Grow cells using aseptic techniques
- 12. Demonstrate ability to use measurement instrumentation properly
- 13. Perform a concentration assay for DNA or Protein
- 14. Successfully perform a basic bio-separation technique such as column chromatography
- 15. Perform a molecular technique such as DNA sizing electrophoresis
- 16. Demonstrate work-readiness skills

STUDENT LEARNING OUTCOMES

- 1. Apply and demonstrate good laboratory safety and aseptic techniques to make appropriate solutions and culture media to grow cells.
- 2. Apply knowledge of cell, molecular, and microbiology to isolate, quantify, and study the important biomolecules of cells.
- 3. Properly record and document data and data analyses in an organized lab notebook.

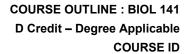
COURSE CONTENT WITH INSTRUCTIONAL HOURS



	Description	Lecture	Lab	Total Hours
1	Scientific method	1.5	0	1.5
2	Biotechnology overview	1.5	0	1.5
3	Molecular and cell biology Biological molecules (proteins, carbohydrates, lipids, nucleic acids) Cell structures (prokaryotes and eukaryotes) Gene expression DNA technology and analysis Cell culture and fermentation Bioseparation (protein purification, agarose gel, etc.)	18	0	18
4	Preparation and sterilization of bacterial media Growth and maintenance of bacterial cultures	1.5	0	1.5
5	Mammalian cell culture method Preparation and sterilization of media for mammalian cells Growth and maintenance of mammalian cultures	1.5	0	1.5
6	Units of measurement and converting between units (metric system) Graphical methods of analysis and data display Various methods for expressing concentration Calculation for molar and percent solution Dilutions Reagents, solutions and media formulations	6	0	6

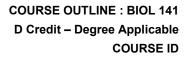


7	Basic chemistry of buffers and pH	1	0	1
	Common Laboratory Measurements			
8	WeightVolumepHTemperatureSpectrophotometry	2	0	2
9	Health and SafetyMSDS/SDSPersonal Protection EquipmentContamination	1	0	1
10	Laboratory basic skills • Application of laboratory math	0	3	3
11	Laboratory basic skills • Micropipetting and serological pipetting skills	0	4	4
12	Laboratory basic skills • Laboratory safety practices	0	2	2
13	Laboratory basic skills • Aseptic techniques	0	3	3
14	Laboratory basic skills • Good manufacturing practices	0	3	3
15	Laboratory basic skills Preparation of various solutions at different concentrations	0	6	6
16	Laboratory basic skills • Proper dilution of solutions, media	0	3	3
17	Laboratory basic skills • Preparation and analysis of buffers	0	3	3





		1		-
18	Laboratory basic skills	0	6	6
10	 Preparation of biological solutions (media preparation, autoclaving, pH determination and adjustments, measuring, balances, volumes) 		0	0
		•		
	Laboratory basic skills			
19	Agarose gels testing	0	3	3
00	Laboratory basic skills			
20	Uses of polyacrylamide gels	0	3	3
21	Laboratory basic skills • Spectrophotometry	0	3	3
22	General biotechnology and molecular techniques used in industry: DNA	0	3	3
	Bacterial cell transformation			
23	General biotechnology and molecular techniques used in industry: DNA	0	3	3
	Plasmid isolation			
24	General biotechnology and molecular techniques used in industry: DNA	0	3	3
	Chromosome isolation			
25	General biotechnology and molecular techniques used in industry: DNA	0	3	3
	Gel electrophoresis			
26	General biotechnology and molecular techniques used in industry: DNA	0	3	3
	Restriction digestion and analysis			
27	General biotechnology and molecular techniques used in industry: DNA	0	6	6
	Cloning			





28	General biotechnology and molecular techniques used in industry: DNA • PCR	0	3	3
29	General biotechnology and molecular techniques used in industry: Proteins • Protein isolation	0	3	3
30	General biotechnology and molecular techniques used in industry: Proteins • Protein quantification	0	2	2
31	General biotechnology and molecular techniques used in industry: Proteins • Western blot	0	6	6
32	General biotechnology and molecular techniques used in industry: Proteins • Column chromatography	0	3	3
33	General biotechnology and molecular techniques used in industry: Antibodies • ELISA (enzyme-linked immunosorbent assay) • Western Blot	0	3	3
34	Inoculation/growth of cell cultures	0	6	6
35	Lab safety	0	2	2
36	Documentation and record keeping Physical lab notebook E-notebook (e.g. Benchling.com)	0	3	3
37	Data collection and evaluation	0	3	3
38	Standard operating procedures (SOP)	0	3	3



	39	Oral communication, presentation Written communication Teamwork, team building exercises Industry expert and/or career counselor workshops Resume writing Interview skills Job searching	2	8	10
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OUT OF CLASS ASSIGNMENTS

- 1 Reading assigned chapters in course textbook(s), laboratory manual, and/or relevant scientific articles.
- 2 Homework assignment aimed at explaining and recognizing major concepts (e.g. making buffers, dilutions, constructing recombinant DNA, restriction enzyme analysis and gel electrophoresis.)
- 3 Maintaining lab notebook that contains laboratory protocols (e.g. a written protocol that includes the title, purpose, materials needed, procedures, and results) and test results. 4 Prelab quizzes.
- 5 Written lab report.

METHODS OF EVALUATION

- 1 Class presentation
- 2 Class and laboratory activities and experiments
- Writing assignments that assess the ability to apply good laboratory practices to reports and lab notebooks (e.g. data collection and modifications to laboratory protocols, Standard Operating Procedures).
- 4 Laboratory practica that assess the ability to prepare and analyze graphs, follow a protocol, demonstrate basic lab skills and workplace competency, and explain deviations from the protocol.
- 5 Objective written examinations and quizzes that test for definitions and application of major concepts
- 6 Field trip



METHODS OF INSTRUCTION

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

TEXTBOOKS

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
Introduction to Biotechnology	Required	Pearson	4	Print	Thienman, Willian J.	978- 013465019 7	2018
Campbell Essential Biology	Supplemental	Pearson	7	Print	Simon, Eric J.	978- 013481294 6	2018
Laboratory Manual for Biotechnology and Laboratory Science: The Basics. Boston	Supplemental	Pearson		Print	Seidman, Lisa A.	978032164 4022	2011
. Biotechnology: A Laboratory Skills Course	Required	Bio-Rad	2	Print	Brown, J. Kirk	978098323 9635, 098323963 0	2018
Biomanufacturing Laboratory Manual	Required	Northeast Biomanufacturing Center		Online	Northeast Biomanufacturing Center and Collaborative		2012



PROPOSAL

COURSE DISCIPLINE: BIOL

COURSE NUMBER: 142

COURSE TITLE (FULL): Applied Biotechnology II with Laboratory

COURSE TITLE (SHORT): Applied Biotech II

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID: BIOT C-ID 220

CATALOG DESCRIPTION

BIOL 142 is the second course in the Applied Biotechnology series. It introduces advanced concepts and laboratory techniques in biotechnology. Building on the basic skills established in BIOL 141, students will learn methodology in large-scale protein production and protein purification techniques, including sample preparation. It provides hands-on training with chromatography systems and assays used in industry and research laboratories. This course also covers methods utilized for eukaryotic cell culture protein purification. Application of current Good Manufacturing Process (cGMP), Good Laboratory Practice (GLP), and Standard Operating Procedures (SOP's) in relation to these techniques will be addressed. Good communication, collaborative work and workreadiness skills are emphasized. This course is intended for, but not limited to, students preparing for a career in biotechnology.

CATALOG NOTES

N/A

Total Lecture Units:2.00

Total Laboratory Units: 2.00

Total Course Units: 4.00

Total Lecture Hours:36.00

Total Laboratory Hours: 108.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 144.00



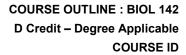
PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Туре	Req. Is Being
	BIOL - 101 - General Biology I	Recommended Preparation	Added
Or	BIOL - 112 - Microbiology	Recommended Preparation	Added
Or	BIOL - 122 - Introduction to Biology	Recommended Preparation	Added
Or	BIOL - 298 - Undergraduate Research in Microbiology and Molecular Biology	Prerequisite	Added
&	CHEM - 101 - General Chemistry	Recommended Preparation	Added
Or	BIOL - 140 - Introduction to Biotechnology	Recommended Preparation	Added
&	BIOL - 141 - Applied Biotechnology I with Laboratory	Prerequisite	Added

ENTRY STANDARDS

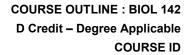
	Subject	Number	Title	Description	Include
1	BIOL	101	General Biology I	Identify the properties of lipids, carbohydrates, proteins, and nucleic acids;	Yes
2	BIOL	101	General Biology I	describe the structure of prokaryotic and eukaryotic cells;	Yes
3	BIOL	101	General Biology I	describe and identify the different stages in mitosis;	Yes
4	BIOL	101	General Biology I	describe the processes of DNA replication, transcription, and translation;	Yes
5	BIOL	101	General Biology I	explain the basic mechanisms of gene regulation in prokaryotes and eukaryotes.	Yes
6	BIOL	101	General Biology I	demonstrate proper use of laboratory equipment including the microscope, spectrophotometer, and micropipettes;	Yes

7	BIOL	101	General Biology I	demonstrate proficiency with data collection, analysis, and graphical representation.	Yes
8	BIOL	112	Microbiology	demonstrate general knowledge of the physical and chemical structure of prokaryotes and eukaryotes	Yes





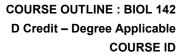
9	BIOL	112	Microbiology	demonstrate an understanding of the biochemical processes of the cell, including cell respiration, DNA replication, genetic recombination, transcription, translation, and cellular transport	Yes
10	BIOL	112	Microbiology	demonstrate an understanding of the physical and chemical methods and mechanisms used to control microbial growth	Yes
11	BIOL	112	Microbiology	demonstrate proper aseptic techniques and proficiency in performing various staining procedures and biochemical tests on microorganisms	Yes
12	BIOL	122	Introduction to Biology	Describe the structure of atoms, the properties of water and structure and function of biological macromolecules;	Yes
13	BIOL	122	Introduction to Biology	describe the flow of information from DNA to protein;	Yes
14	BIOL	122	Introduction to Biology	compare prokaryotic and eukaryotic cells, and describe the structure and function of eukaryotic organelles;	Yes
15	BIOL	298	Undergraduate Research in Microbiology and Molecular Biology	Demonstrate aseptic laboratory techniques and safe laboratory practices;	Yes
16	BIOL	298	Undergraduate Research in Microbiology and Molecular Biology	communicate effectively in a collaborative work environment;	Yes
17	BIOL	298	Undergraduate Research in Microbiology and Molecular Biology	apply chemical formulas to make appropriate media;	Yes
18	BIOL	298	Undergraduate Research in Microbiology and Molecular Biology	troubleshoot problems when carrying out experiments;	Yes





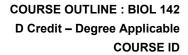
19	BIOL	298	Undergraduate Research in Microbiology and Molecular Biology	keep meticulous daily records of lab activities, experimental procedures, outcomes of experiments, and creative thoughts in a lab notebook;	Yes
20	BIOL	298	Undergraduate Research in Microbiology and Molecular Biology	demonstrate competence in use and application of various equipment and techniques used in molecular biology and microbiology;	Yes
21	BIOL	298	Undergraduate Research in Microbiology and Molecular Biology	read and analyze peer-reviewed articles in the field of study;	Yes
22	CHEM	101	General Chemistry	utilize bonding theories to describe the chemical nature of ions and molecules	Yes

23	CHEM	101	General Chemistry	demonstrate the proper use of laboratory equipment and the ability to handle chemicals safely	Yes
24	CHEM	101	General Chemistry	describe the scientific method and apply it to the development of the science of chemistry	Yes
25	CHEM	101	General Chemistry	demonstrate an understanding of intermolecular forces and apply those forces to the nature of solids and liquids	No
26	BIOL	140	Introduction to Biotechnology	List the morphologic and chemical differences between prokaryotic and eukaryotic cells	Yes
27	BIOL	140	Introduction to Biotechnology	Define and distinguish among atoms, molecules, compounds, chemical bonds, mechanisms of chemical bond formation, and components of biological molecules	Yes
28	BIOL	140	Introduction to Biotechnology	Construct the flow diagram of gene expression from DNA to protein	Yes
29	BIOL	140	Introduction to Biotechnology	Translate the triplet code of DNA into primary protein structure	Yes





30	BIOL	140	Introduction to	Assess the role of basic Mendelian	Yes
			Biotechnology	genetics	
31				Compare and contrast current	Yes
			Biotechnology	applications of biotechnology to the	
				areas of medicine, agriculture,	
				diagnostics, and the environment	
32	BIOL	140	Introduction to	Explain evolution from a genetic	No
			Biotechnology	perspective	
33	BIOL	140	Introduction to	Evaluate a recent development in the	Yes
			Biotechnology	field of biotechnology from an ethical	
				perspective	
34	BIOL	140	Introduction to	Demonstrate pipetting skills	Yes
0.5	5101	4.40	Biotechnology		.,
35	BIOL	140	Introduction to Biotechnology	Explain the importance of Good	Yes
				Laboratory Practices and record keeping	
36	BIOL	140	Introduction to	Prepare and analyze graphs	Yes
			Biotechnology		
37	BIOL	140	Introduction to	Explain how an antibody-based assay	Yes
			Biotechnology	works (e.g. ELISA)	
38	BIOL	140	Introduction to	Perform bacterial transformation	Yes
			Biotechnology		
39	BIOL	140	Introduction to	Use of aseptic techniques in lab	Yes
			Biotechnology	procedures, such as handling of	
				bacteria, microbiology and molecular	
				biology work.	
40	BIOL	140	Introduction to	Demonstrate proficiency in basic	Yes
			Biotechnology	molecular techniques (e.g. DNA and	
				protein analysis techniques)	
41	BIOL	140	Introduction to	Identify parts of a microscope	Yes
40	DIO!	140	Biotechnology		Ves
42	BIOL	140	Introduction to Biotechnology	Use a microscope to view specimens	Yes





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43	BIOL	140	Introduction to Biotechnology	Employ a lab protocol and explain deviations from the protocol	Yes
44	BIOL	141	Applied Biotechnology I with Laboratory	Apply principals of basic chemistry of buffers and pH to biological molecules	Yes
45	BIOL	141	Applied Biotechnology I with Laboratory	Explain recombinant DNA	Yes
46	BIOL	141	Applied Biotechnology I with Laboratory	Be able to convert between metric units	Yes
47	BIOL	141	Applied Biotechnology I with Laboratory	Be able to perform basic dilutions	Yes
48	BIOL	141	Applied Biotechnology I with Laboratory	Perform calculations related to reagents, solutions and media formulations	Yes
49	BIOL	141	Applied Biotechnology I with Laboratory	Demonstrate Good Laboratory Practices and record keeping in a laboratory notebook	Yes
50	BIOL	141	Applied Biotechnology I with Laboratory	Prepare and analyze graphs	Yes
51	BIOL	141	Applied Biotechnology I with Laboratory	Grow cells using aseptic techniques	Yes
52	BIOL	141	Applied Biotechnology I with Laboratory	Demonstrate ability to use measurement instrumentation properly	Yes
53	BIOL	141	Applied Biotechnology I with Laboratory	Perform a concentration assay for DNA or Protein	Yes
54	BIOL	141	Applied Biotechnology I with Laboratory	Successfully perform a basic bioseparation technique such as column chromatography	Yes



55	BIOL	141	Diotochnology I	Perform a molecular technique such as DNA sizing electrophoresis	Yes
			with Laboratory	DIVA SIZING ELECTIOPHOLESIS	

EXIT STANDARDS

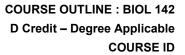
- 1 Correctly perform laboratory calculations.
- 2 Correctly use precision measuring devices.
- 3 Describe the principles of commonly used protein assays.
- 4 Perform chromatography and other separation methods for protein purification.
- 5 Describe and/or demonstrate techniques for isolation of proteins from cells and tissue.
- 6 Perform standard column chromatography techniques.
- 7 Correctly record procedures and maintain an organized laboratory notebook.
- 8 Describe biological concepts related to basic DNA recombinant technology and protein isolation and analysis that are routinely used in the biotechnology laboratory.
- 9 Use purification analysis data to improve purification procedure.
- 10 Demonstrate work-readiness skills

STUDENT LEARNING OUTCOMES

- 1 Manufacture proteins by transforming cells with recombinant plasmids and isolate, purify, and analyze the quantity and quality of the protein.
- Demonstrate industry standards of Good Manufacturing Practice (GMP), Good Documentation Practice (GDP), and Standard Operating Practice (SOP) while carrying out the laboratory procedures and experiments.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
4	Overview of cell biology and genetics • Overview of prokaryotic and eukaryotic cell	6	0	6
	 structures Overview of gene structure and gene expression in prokaryotes and eukaryotes 	6	O	6



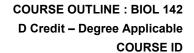


2	Protein structure and modification in prokaryotes and eukaryotes Cloning strategies for inducible protein expression DNA analysis (restriction enzymes, gel electrophoresis, spectrophotometer for quantification)	7	0	7
3	Concentration and dilution calculations and generation of standard curve for protein analysis	2	0	2
4	Preparation of buffers, resins, and reagents used in protein purification	3	0	3
5	Correct use of equipment used for protein purification techniques	3	0	3
6	Basic column Chromatographic methods Column chromatography HPLC (High Performance Liquid Chromatography)	2	0	2
7	Quantitative analysis of chromatographic fractions and purified protein • SDS-PAGE (sodium dodecyl sulfate polyacrylamide gel electrophoresis) • Activity assay • Western blot	2.5	0	2.5

8	Principles of separation methods including centrifugation, chromatography (e.g., ion exchange, size exclusion, hydrophobic interaction, affinity), electrophoresis and filtration as related to protein purification and product analysis	3.5	0	3.5
9	Sample preparation (harvest, cell disruption, etc.)	1	0	1
10	Purification strategy design and data analysis	2	0	2
11	Contaminants and impurities	1	0	1



	Industry practices			
12	 Industry practices GLP (Good Laboratory Practice) cGMP (Current Good Manufacturing Practice) SOP's (Standard Operating Procedures) Use of lab notebooks or other laboratory documentation methods (e.g. e-notebook, Benchling) 	3	0	3
13	Perform calculations for preparation of solutions, buffer, media • for growth and maintenance of cell cultures • for protein purification • for gel electrophoresis	0	9	9
14	Upstream processing: genetic cloning and cell culture	0	4.5	4.5
15	Upstream processing: genetic cloning and cell culture	0	8	8
16	Upstream processing: genetic cloning and cell culture • Spectrophotometry, measurement of cell density	0	6	6
17	Downstream processing: preparation of samples for protein purification • Protein extraction	0	8	8
18	Downstream processing: preparation of samples for protein purification • Analyze yield, protein quantification	0	8	8
19	Downstream processing: preparation of samples for protein purification • Protein purification: chromatography	0	9	9





20	Downstream processing: preparation of samples for protein purification	0	9	9
	Protein purification: HPLC			
21	Downstream processing: preparation of samples for protein purification • Protein purification: gel electrophoresis, SDS-PAGE	0	8	8
22	Downstream processing: preparation of samples for protein purification	0	8	8
	Protein purification: Western blot			
23	Perform calculations for data analysis	0	9	9
24	Write Standard Operating Procedures (SOPs)	0	5	5
25	 Follow Good Documentation Practice (GDP) Record keeping in organized lab notebooks or enotebook. Record and maintain documents in binders (batch record, media/buffer prep sheets, validation forms. Record Data analyses. 	0	9	9
26	Introduction to Good Manufacturing Practices (GMP) • GMP popcorn lab	0	3	3
27	Industry expert and career counselor workshops • Resume writing • Interview skills • Job searching	0	4.5	4.5
		I		144

OUT OF CLASS ASSIGNMENTS

- 1 Field trip;
- 2 Read relevant research articles;
- 3 Maintaining lab notebook that contains laboratory protocols (e.g. a written protocol that includes the title, purpose, materials needed, procedures, and expected results);
- 4 Lecture homework assignment to understand lecture concept;
- 5 Pre-lab quizzes;



6 Written lab report.

METHODS OF EVALUATION

- 1 Class presentation
- 2 Class and laboratory activities and experiments
- Writing assignments that assess the ability to apply Good Laboratory Practices to reports and record keeping in lab notebooks (e.g. data collection and modifications to laboratory protocols, Standard Operating Procedures, lab report)
- 4 Laboratory practica that assess the ability to prepare and analyze graphs, follow a protocol, demonstrate basic lab skills and workplace competency, and explain deviations from the protocol
- 5 written examinations and quizzes

METHODS OF INSTRUCTION Lecture Laboratory Studio Discussion Multimedia Tutorial Independent Study Collaboratory Learning Demonstration Field Activities (Trips) Guest Speakers

TEXTBOOKS

Presentations

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
Introduction to Biotechnology	Required	Pearson	4	Print	Thienman, Willian J.	978- 0134650197	2018
Campbell Essential Biology	Supplemental	Pearson	7	Print	Simon, Eric J.	978- 0134812946	2018



Laboratory Manual for Biotechnology and Laboratory Science: The Basics.	Required	Pearson	2	Print	Seidman, Lisa A.	978032164 4022	2011
Biotechnology: A Laboratory Skills Course	Required	Bio-Rad Laboratories, Inc.	2	Print	Brown, J. Kirk	978098323 9635, 098323963 0	2018
Biomanufacturing Laboratory Manual	Required	Northeast Biomanufacturing Center	1	on-line	Northeast Biomanufacturing Center and Collaborative		2012



PROPOSAL

COURSE DISCIPLINE: ESL

COURSE NUMBER: 156

COURSE TITLE (FULL): Reading and Vocabulary for ESL V Students

COURSE TITLE (SHORT): Reading and Vocabulary V

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID:

CATALOG DESCRIPTION

ESL 156 is designed to help advanced Credit ESL students to read academic reading materials in order to analyze, discuss, and write about their understanding of the texts. The course places heavy emphasis on academic interdisciplinary vocabulary development. Students use various reading strategies to increase their reading comprehension of both fiction and non-fiction narrative texts.

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	Туре	Req. Is Being
	ESL - 151 - Reading and Composition V	Corequisite	Added
&	ESL - 155 - Listening And Speaking V	Corequisite	Added
&	ESL - 146 - Reading And Vocabulary For ESL IV Students	Prerequisite	Added

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ESL	146	Reading And Vocabulary For ESL IV Students	comprehend academic reading passages at the high-intermediate credit ESL vocabulary level;	Yes
2	ESL	146	Reading And Vocabulary For ESL IV Students	deduce meaning of new vocabulary from context;	Yes
3	ESL	146	Reading And Vocabulary For ESL IV Students	write answers of 60-70 words in response to questions;	Yes
4	ESL	146	Reading And Vocabulary For ESL IV Students	write summaries of and responses to a text;	Yes
5	ESL	146	Reading And Vocabulary For ESL IV Students	paraphrase a reading passage.	Yes

EXIT STANDARDS

- 1. demonstrate comprehension of academic readings at the advanced credit ESL vocabulary level;
- 2. deduce meaning of new vocabulary from context;
- 3. reply to inference as well as recall questions on reading comprehension tests;
- 4. write answers of 70-80 words in response to questions;
- 5. write summaries of and responses to a text;
- 6. paraphrase a reading passage.

STUDENT LEARNING OUTCOMES

- 1 read academic passages at the advanced Credit ESL level;
- 2 utilize key target vocabulary learned throughout the semester at the advanced Credit ESL level.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
	Reading strategies, including: predicting, skimming, scanning, and identifying the thesis and the author's point of view	6	0	6
2	Academic reading passages from 4-20 pages or a book length text	10	0	10



3	Use of contextual clues to determine word meanings	6	0	6
4	Comprehension and recall of information	6	0	6
5	Inferring meaning from context	4	0	4
6	Paraphrasing and summarizing;	6	0	6
7	Distinguishing main ideas from details	6	0	6
8	Write responses to inference as well as recall questions	10	0	10
				54

OUT OF CLASS ASSIGNMENTS

- 1 laboratory work may be assigned in the ESL Computer Lab on reading and vocabulary modules;
- 2 written homework (e.g. 70- 80-word responses to an assigned reading);
- 3 vocabulary homework (e.g. definitions, synonyms/antonyms, sentence writing, word forms);
- 4 online workbooks;
- 5 reading responses (journal writing);
- 6 book report;
- 7 highlighting activities such as short/long stories from novels/texts;
- 8 written outlines of short/long stories;
- 9 summaries of short/long stories;
- 10 paraphrases of short/long stories.

METHODS OF EVALUATION

- 1 other criteria: 10% (homework, as described in out of class assignments).
- 2 final examination: 20% (division wide reading exam: 10%, instructor-written vocabulary section: 10%);
- 3 reading and vocabulary tests or quizzes: 30% (three to four);
- 4 reading responses and/or book report: 40%;

METHODS OF INSTRUCTION

~	Lecture
	Laboratory
	Studio
~	Discussion



	Multimedia
Tutorial	
✓ Independent S	Study
Collaboratory	Learning
Demonstration	n
Field Activities	s (Trips)
Guest Speake	ers
☑ Presentations	

TEXTBOOKS

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
Pathways: Reading, Writing, and Critical Thinking 4	Required	NGL/Cengage	2	PRINT	Blass, Laurie	978133740 7809	2018
21st Century Reading 4: Creative Reading and Thinking with TED Talks 4	Required	NGL/Cengage	1	PRINT	Blass, Laurie	978130526 5721	2016
A Community of Readers: A Thematic Approach to Reading.	Required	NGL/Cengage	8	PRINT	Alexander, Roberta	978035713 6621	2021
Mindscapes: Critical Reading Skills and Strategies	Required		2	PRINT	Carter, Christine	10- 143546234 3	2013
An Introduction to Critical Reading	Required		7	PRINT	McCraney, Leah	978049580 1795	2011
Catch Me If You Can: The Amazing True Story of the Most Extraordinary Liar in the History of Fun and Profit	Required	Broadway Books	7	PRINT	Abagnale, Frank	978076790 5381	2000
First They Killed My Father: A Daughter of Cambodia Remembers	Required	Mainstream Publishing	3	PRINT	Ung, Loung	978006256 1305	2017
The Knock at the Door: A Mother's Survival of the Armenian Genocide	Required	Beaufort Books	1	PRINT	Ahnert, Margaret Ajemian	978- 082530683 9	2006
Miss Peregrine's Home for Peculiar Children	Required	Quirk Books	1	PRINT	Riggs, Ransom	978159474 6031	2013
The Five People You Meet in Heaven	Required	Hachette Books	3	PRINT	Albom, Mitch	978078686 8711	2014



PROPOSAL

COURSE DISCIPLINE: LING

COURSE NUMBER: 102

COURSE TITLE (FULL): Sociolinguistics

COURSE TITLE (SHORT): Sociolinguistics

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID:

CATALOG DESCRIPTION

LING 102 provides a foundation of terminology and methodology used in the current study of cultural and sociological areas of language. The course emphasizes aspects of societal variation (class, gender, ethnicity, age, and ability), geographic variation (dialects and style), contact variation (multilingualism, pidgins, and creoles), as well as language standardization issues (social justice, educational planning, and government policies). Drawing on a variety of modern linguistics concepts, students will be able to analyze, reason, and generalize from linguistic data representative of the diverse and varied languages of the world.

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

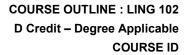


PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Туре	Req. Is Being
	LING - 101 - Introduction To Language And Linguistics	Prerequisite	Added
Or	ENGL - 100 - Writing Workshop	Prerequisite	Added
Or	ESL - 151 - Reading and Composition V	Prerequisite	Added

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	LING	101	Introduction To Language And Linguistics	identify, review, and summarize the major subdisciplines of the study of language and their interrelationships: phonetics, phonology, morphology, syntax, semantics, language acquisition, sociolinguistics, psycholinguistics, and neurolinguistics;	Yes
2	LING	101	Introduction To Language And Linguistics	identify and discuss areas of the human anatomy and their linguistic function, including areas of the vocal tract and brain;	Yes
3	LING	101	Introduction To Language And Linguistics	review and summarize the relationship between phonology (sounds), morphology, semantics (meaning) and the arbitrary nature of language;	Yes
4	LING	101	Introduction To Language And Linguistics	apply principles of linguistic analysis to unfamiliar or novel English and non-English language data presented in instructional supplements, the textbook, and/or researched or collected by the student;	Yes
5	LING	101	Introduction To Language And Linguistics	demonstrate an understanding of individual, social, and historical variation in language, including acquisition, dialects, registers, and speech and language pathologies.	Yes
6	ENGL	100	Writing Workshop	Read, analyze, and evaluate contemporary articles and stories to identify topic, thesis, support, transitions, conclusion, audience, and tone;	Yes





			1		
7	ENGL	100	Writing Workshop	read, analyze, and evaluate contemporary articles and stories for the comprehension of difficult content and the identification of main ideas and (topic-based) evidence;	Yes
8	ENGL	100	Writing Workshop	write a summary of a contemporary article or story with correct citation techniques;	Yes
9	ENGL	100	Writing Workshop	write an argumentative essay that has an introduction, body paragraphs, and a conclusion, demonstrating a basic understanding of essay organization;	Yes
10	ENGL	100	Writing Workshop	write an argumentative essay that addresses the topic, is directed by a thesis statement, uses appropriate textual evidence, develops logical interpretations, and concludes with some compelling observations;	Yes
11	ENGL	100	Writing Workshop	write an argumentative essay that integrates the ideas of others (i.e., authors) through paraphrasing, summarizing, and quoting with correct citation techniques;	Yes
12	ENGL	100	Writing Workshop	write an argumentative essay that generates novel ideas (those that add to the conversation rather than repeating the author's ideas) related to the topic and the readings;	Yes
13	ENGL	100	Writing Workshop	write compositions (e.g., summaries and argumentative essays) that are easy to read and follow, though some errors in grammar, mechanics, spelling, or diction may exist;	Yes
14	ENGL	100	Writing Workshop	proofread and edit essays for content, language, citation, and formatting problems.	Yes
15	ESL	151	Reading and Composition V	Read and critically analyze various academic readings;	Yes
16	ESL	151	Reading and Composition V	summarize readings;	Yes
17	ESL	151	Reading and Composition V	organize fully-developed essays in both expository and argumentative modes;	Yes
18	ESL	151	Reading and Composition V	compose a 500 to 550-word essay which: summarizes and cites appropriately a reading passage; includes a clear thesis statement; uses evidence to support the thesis; shows clear organization into an introduction, body, and conclusion;	Yes



19	ESL	151	Reading and Composition V	revise writing to eliminate errors in syntax, and grammatical constructions;	Yes
20	ESL	151	Reading and Composition V	employ basic library research techniques;	Yes
21	ESL	151	Reading and Composition V	compose one research paper (1,000 words) or two short research papers (500-700 words each) with citations.	Yes

EXIT STANDARDS

- 1. identify, review, and summarize the major sub-disciplines of the study of sociolinguistics and their interrelationships, including dialects, style, class, gender, race, age, bilingualism, pidgins, creoles, social justice, educational planning, and government policies;
- 2. apply principles of linguistic discourse analysis to prepare and present a group project on societal, geographic, or contact variation of language topic;
- examine principles of linguistic analysis to gather professionally documented evidence of English or non-English language data in order to prepare a research paper on a societal, geographic, contact variation, or standardization issue of language;
- 4. demonstrate an understanding of how individual, social, regional, national, and international manifestations of language coincide to produce an overall sociolinguistic view of California, the United States, and the world.

STUDENT LEARNING OUTCOMES

- define and discuss the major concepts and important terminology found in the sociolinguistic areas related to geography, society, contact, and standardization;
- 2 execute and arrange original sociolinguistic data collection in order to analyze and present the findings;
- apply principles of sociolinguistics to an English or non-English data set and discover inherent structures based on social and geographic context.

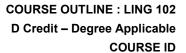


COURSE CONTENT WITH INSTRUCTIONAL HOURS

Description		Lecture	Lab	Total Hours
A. Geogra	aphic Variation			
	Dialect vs. Language Mutual intelligibility Sociopolitical factors in language labeling Speaking vs. writing America, Europe, World difference Regional dialects § Isoglosses Phonological distinctions Lexical distinctions Syntactic distinctions Style Media and the internet Formal vs. informal Taboos and euphemisms	12	0	12



	B. Societal Variation			
	• Class			
	Rhoticity in American English			
	Lexical distinctions and slang			
	Syntactic distinctions			
	Phonological distinctions			
	• Gender			
	Pragmatic differences			
	Language innovation			
	Cross-linguistic distinctions			
2	Grammatical gender	15	0	15
	• Ethnicity			
	African American Vernacular English (AAVE)			
	Chicano English (ChE)			
	Non-US ethnic dialects			
	• Age			
	Lexical differences			
	Language innovation			
	Generational slang			
	Generational usage of digital communication			





	C. Contact Variation			
	Bilingualism and Multilingualism			
	Individuals vs. Community			
	Code switching			
	Psychological development of bilingualism			
	Diglossia in the world			
	Language endangerment			
3	• Lingua Franca	15	0	15
	Geography			
	Religion			
	Careers/Fields of study			
	Pidgins and Creoles			
	Development of pidgins and creoles			
	Differences between pidgins and creoles			
	Decreolization			



	D. Standardization Issues			
	Social Justice			
	Feminism and LGBTQ rights			
	Slurs and euphemisms			
	Syntactic and semantic labeling choices			
	Educational planning			
4	Bilingual and bi-dialectal education	12	0	12
	Private vs. public school education			
	Style guides § Official language status			
	Governmental policies			
	Official language planning associations around the world			
	Translation and interpretation implementation			
	Language accessibility for disabled citizens			
				54

OUT OF CLASS ASSIGNMENTS

- a linguistics research paper (e.g. a report consisting of data collection analysis of any US or international topic of geographic, societal, contact variation, or standardization issue);
- 2 small group class-presented project consisting of original discourse analysis data collection on any US or international topic of geographic, societal, or contact variation.

METHODS OF EVALUATION

- 1 weekly exercises and / or quizzes;
- 2 Sectional exams on geographic variation, societal variation, contact variation, and standardization issues;
- a written final will be given to evaluate student retention of lecture and textbook material as well as a synthesis of course concepts.



METHODS		

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

TEXTBOOKS

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
Introduction to Sociolinguistics	Required	Wiley-Blackwell	7		Wardhaugh, Ronald	978 1 118 73229 8	2014
Language in Society: An Introduction to Sociolinguistics	Required	Oxford University Press	2		Romaine, Suzanne	978 0 198 73192 4	2000
An Introduction to Sociolinguistics	Required	Routledge	5		Holmes, Janet	978 1 138 84501 5	2017



N Non-Credit COURSE ID

PROPOSAL

COURSE DISCIPLINE: STV

COURSE NUMBER: 72

COURSE TITLE (FULL): Google Workspace Fundamentals

COURSE TITLE (SHORT): Google Workspace Fundamentals

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID:

CATALOG DESCRIPTION

STV 72 provides students with an introduction to using and configuring a Google account, security settings, Gmail, Google Calendar, Google Voice, Google Drive, Google Docs, Google Sheets, and Google Forms. Students create a Google account, change account settings, use all features available in Gmail, create calendars and appointments in Google Calendar, create a forwarding telephone number service in Google Voice, and create a channel as well as content in Google's YouTube. (24-32 course hours)

CATALOG NOTES

N/A

Total Lecture Units:0.00

Total Laboratory Units: 0.00

Total Course Units: 0.00

Total Lecture Hours:0.00

Total Laboratory Hours: 32.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 32.00





PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Туре	Req. Is Being
	ESL - 30 - ENGLISH AS A SECOND LANGUAGE LEVEL 3	Recommended Preparation	Added
&	STV - 140 - INTERNET	Recommended Preparation	Added

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	Write paragraphs at the low-intermediate level with sufficient unity;	Yes
2	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	develop coherence and mechanical accuracy;	Yes
3	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	demonstrate mastery of grammatical structures studied at a level sufficient to pass unit tests and the divisional grammar mastery test for this level;	Yes
4	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	converse at a functional level adequate for everyday use on the campus and in the community;	Yes
5	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	respond to questions about recorded and live speeches, dialogues, role plays, and lectures;	Yes
6	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	decode 2,500-word reading passages,, respond to inference and recall questions, and utilize a monolingual English dictionary to advantage.	Yes
7	STV	140	INTERNET	access the internet for research and communication;	Yes
8	STV	140	INTERNET	recognize the importance of managing individual privacy and security;	Yes
9	STV	140	INTERNET	explore the world wide web.	Yes

EXIT STANDARDS

1 Demonstrate a basic understanding of Google Accounts and uses;



N Non-Credit COURSE ID

- 2 use Gmail to read, search and send email with attachments;
- 3 use Gmail for email applications such as Outlook;
- 4 apply use of security options in Google;
- 5 generate a Google Voice and YouTube account;
- 6 create and share Google Calendars.

STUDENT LEARNING OUTCOMES

- 1 Create and secure a Google account for business and personal use;
- demonstrate skills of searching, creating, and organizing Gmail workspace;
- develop content using a variety of basic Google applications.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
	Introduction Introduction to Google Services and Overview Google Suite for business and separate services offered apart from Google Suite for business. Setting up a Google Account			Hours
1	Using the Google Dashboard	0	4	4
	Security and setting up 2-factor authentication			
	Using Google Security to check account status and logins			
	Costs of using Google Services			





	Gmail						
	Receiving email with Gmail, and read vs. unread messages						
	Searching for specific emails with advanced search functions such as "label", "from;", "to", using dates, labels, and phrases	ons such as "label", "from;", "to", using dates,					
	Sending Gmail						
2	 single and multiple recipients; CC and BCC maximum attachment sizes, multiple attachments, and compressing files for attaching to Gmail 	maximum attachment sizes, multiple attachments,					
	Organizing email with custom labels						
	Creating alias email addresses in Gmail						
	Creating individual contacts						
	Creating mailing lists of customers						
	Configuring Gmail to use with Outlook 365						
	Google Calendar						
	Creating recurring and non-recurring appointments						
	Creating calendars						
3	grouping and naming calendars	0	8	8			
	Sharing calendars						
	sharing your own calendar and using permissions viewing shared calendars						
	Synchronizing phone with app						



N Non-Credit



	Google Voice			
4	 Getting a Google Voice number Forwarding Google Voice to another telephone Texting and messaging through Google Voice Creating outgoing messages Receiving and checking voicemail and using VM transcription service 	0	4	4
	YouTube			
5	Searching YouTubeCreating a channelUploading and editing a video	0	4	4
	Miscellaneous, New and Changing Google Services			
6	 Google Keep Google Meet New developments in Google services	0	4	4
				32

OUT OF CLASS ASSIGNMENTS

1 Not applicable

METHODS OF EVALUATION

- 1 Project based evaluation (need example)
- 2 Multiple-choice quizzes
- 3 Comprehensive final test

METHODS OF INSTRUCTION



COURSE OUTLINE : STV 72 N Non-Credit

COURSE ID

COLLEGE	3	
	~	Lecture
	~	
Laboratory		
Studio	~	
		Discussion
		Multimedia
Tutorial		
		Independent Study
	~	Collaboratory Learning
Demonstration	1	
Field Activit	ties (T	rips)
Guest Spea	akers	
Presentatio	ns	

TEXTBOOKS

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date	l
Google Apps Made Easy: Learn to Work in the Cloud	Required	Create Space Independent Publisher	1	Print	James Bernstein	978179811 4995	2019	



N Non-Credit COURSE ID

PROPOSAL

COURSE DISCIPLINE: STV

COURSE NUMBER: 73

COURSE TITLE (FULL): Google Workspace Intermediate

COURSE TITLE (SHORT): Google Workspace Intermediate

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID:

CATALOG DESCRIPTION

STV 73 provides students with skills and information to extend their knowledge of Google Workspace beyond the Google Workspace Fundamentals course. Students create documents and forms in the cloud, backup files, and collaborate with others on documents and worksheets.

CATALOG NOTES

N/A

Total Lecture Units:0.00

Total Laboratory Units: 0.00

Total Course Units: 0.00

Total Lecture Hours:0.00

Total Laboratory Hours: 32.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 32.00





PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Туре	Req. Is Being
	STV - 72 - Google Workspace Fundamentals	Recommended Preparation	Added
&	ESL - 30 - ENGLISH AS A SECOND LANGUAGE LEVEL 3	Recommended Preparation	Added
&	STV - 140 - INTERNET	Recommended Preparation	Added

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	STV	72	Google Workspace Fundamentals	Demonstrate a basic understanding of Google Accounts and uses;	Yes
2	STV	72	Google Workspace Fundamentals	use Gmail to read, search and send email with attachments;	Yes
3	STV	72	Google Workspace Fundamentals	use Gmail for email applications such as Outlook;	Yes
4	STV	72	Google Workspace Fundamentals	apply use of security options in Google;	Yes
5	STV	72	Google Workspace Fundamentals	generate a Google Voice andYouTube account;	Yes
6	STV	72	Google Workspace Fundamentals	create and share Google Calendars.	Yes
7	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	Write paragraphs at the low-intermediate level with sufficient unity;	Yes
8	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	develop coherence and mechanical accuracy;	Yes





9	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	demonstrate mastery of grammatical structures studied at a level sufficient to pass unit tests and the divisional grammar mastery test for this level;	Yes
10	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	converse at a functional level adequate for everyday use on the campus and in the community;	Yes
11	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	respond to questions about recorded and live speeches, dialogues, role plays, and lectures;	Yes
12	ESL	30	ENGLISH AS A SECOND LANGUAGE LEVEL 3	decode 2,500-word reading passages,, respond to inference and recall questions, and utilize a monolingual English dictionary to advantage.	Yes
13	STV	140	INTERNET	access the internet for research and communication;	Yes
14	STV	140	INTERNET	recognize the importance of managing individual privacy and security;	Yes
15	STV	140	INTERNET	explore the world wide web.	Yes

EXIT STANDARDS

- 1. Utilize and configure a Google Account platform for real-world situations;
- 2. demonstrate how to back up files and folders using Google Drive;
- 3. utilize Google Docs to create a fully formatted document with tables, headers, footers, and graphics;
- 4. create tables with values, labels, and formulas as well as create charts based on tables using Google Spreadsheet;
- 5. create a formatted presentation with Google Slides and publish it to the web;
- 6. produce a customer survey form and save response data for analysis using Google Forms.

STUDENT LEARNING OUTCOMES

1 Customize various Google platform applications for business and personal use.



GLENDALE COMMUNITY COLLEGE

- 2 configure collaboration features with Google docs, slides, sheets, and forms;
- 3 synchronize between multiple devices when using various Google platform applications.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
	Google Drive			
1	Capacity of basic free Google Drive. Paid options for extra space Using Good Drive as a Document Backup Service Backing up/uploading files Organizing documents and creating folders Previewing documents from Drive and editing directly in Drive Sharing and Permissions in Google Drive • Copying the sharing link and emailing • Receiving and using a shared link • Changing permissions for shared folders and files The Google Drive synchronization app for computers • Choosing folders to synchronize • Synchronizing between multiple computers The Google Drive app for smart phones	0	8	8





Google Docs	
Using Google Docs as a word processor and features	6
Google Sheets	
Using Google Sheets as a spreadsheet program and features Creating simple budgets and worksheets Sharing permissions in Google Sheets Collaboration in Google Sheets	6
Google Slides	
Using Google Slides as a presentation program and features Creating a basic presentation with text and images Turning your slide into an interactive web page	6
Google Forms	
Create Customer Satisfaction forms Create an on-line test View results of satisfaction forms and make a report	6
	32



N Non-Credit COURSE ID

OUT OF CLASS ASSIGNMENTS

1 Not applicable

METHODS OF EVALUATION

- 1 Multiple choice quizzes
- 2 Project based evaluation (example needed here)
- 3 Comprehensive final test

METHODS OF INSTRUCTION

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

TEXTBOOKS

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
Google Apps made easy: learn to work in the cloud	Required	CreateSpace Independent Publisher	1	Print	James Bernstein	179811499 2	2019



N Non-Credit COURSE ID

PROPOSAL

COURSE DISCIPLINE: STV

COURSE NUMBER: 153

COURSE TITLE (FULL): Drafting and Basic Design Mirrored Course

COURSE TITLE (SHORT): Drafting and Basic Design Mirrored Course

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID:

CATALOG DESCRIPTION

STV 153 is a mirrored course for ARCH 101 that offers limited seating through noncredit. It covers the fundamentals of drafting techniques used in architectural drawing, and the basic design procedure relative to good residential planning. The course studies residential building codes, drafting of working drawings, scale drawings of construction details, framing concepts, and proper dimensioning techniques.

CATALOG NOTES

N/A

Total Lecture Units:0.00

Total Laboratory Units: 0.00

Total Course Units: 0.00

Total Lecture Hours:27.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 108.00

PRECONDITIONS FOR ENROLLMENT

And/Or	Course	Туре	Req. Is Being
	ART - 130 - 2-D Foundations	Recommended Preparation	Added
&	ESL - 141 - Grammar and Writing IV	Recommended Preparation	Added
Or	ENGL - 100 - Writing Workshop	Recommended Preparation	Added



N Non-Credit COURSE ID

ENTRY STANDARDS

	NIKI STANDARDS							
	Subject	Number	Title	Description	Include			
1	ART	130	2-D Foundations	demonstrate a working knowledge and understanding of the basic elements of a two - dimensional art, including line, shape, texture, value, color and spatial illusion;	Yes			
2	ART	130	2-D Foundations	demonstrate a working knowledge and understanding of the organizing principles of two-dimensional art, including balance, proportion, repetition, contrast, harmony, unity, point of emphasis, and visual movement;	Yes			
3	ART	130	2-D Foundations	independently produce visual compositions and problem-solving projects that successfully incorporate the basic elements and organizing principles of two-dimensional art;	Yes			
4	ART	130	2-D Foundations	make individual aesthetic decisions and judgments related to their own artwork;	Yes			
5	ART	130	2-D Foundations	skillfully use a variety of artistic materials, techniques and tools;	Yes			
6	ART	130	2-D Foundations	translate ideas and visual experience into images using both formal and conceptual approaches;	Yes			
7	ART	130	2-D Foundations	discuss, critique and evaluate their own twodimensional compositions, as well as those of their classmates;	Yes			
8	ART	130	2-D Foundations	discuss and write a critical evaluation of twodimensional art using the appropriate vocabulary and terminology pertaining to the basic elements and organizing principles of two-dimensional art;	Yes			
9	ART	130	2-D Foundations	examine, compare and analyze historical and contemporary examples of twodimensional art, within a global context.	Yes			





10	ESL	141	Grammar and Writing IV	Compose a 400 to 450-word thesis-based essay which: (a) summarizes and cites appropriately a reading passage provided as a prompt, (b) includes a clear thesis statement, (c) uses evidence to support the thesis, (d) shows clear organization into an introduction,body, and conclusion, and (e) uses appropriate rhetorical modes such ascomparison/contrast, cause/effect, and persuasion in order to support a thesis.	Yes
11	ENGL	100	Writing Workshop	Read, analyze, and evaluate contemporary articles and stories to identify topic, thesis, support, transitions, conclusion, audience, and tone;	Yes
12	ENGL	100	Writing Workshop	read, analyze, and evaluate contemporary articles and stories for the comprehension of difficult content and the identification of main ideas and (topic-based) evidence;	Yes
13	ENGL	100	Writing Workshop	read, analyze, and evaluate student compositions for unity, development, use of evidence, interpretation, coherence, and variety of sentence form;	Yes
14	ENGL	100	Writing Workshop	write a summary of a contemporary article or story with correct citation techniques;	Yes
15	ENGL	100	Writing Workshop	write an argumentative essay that has an introduction, body paragraphs, and a conclusion, demonstrating a basic understanding of essay organization;	Yes
16	ENGL	100	Writing Workshop	write an argumentative essay that addresses the topic, is directed by a thesis statement, uses appropriate textual evidence, develops logical interpretations, and concludes with some compelling observations;	Yes
17	ENGL	100	Writing Workshop	write an argumentative essay that integrates the ideas of others (i.e., authors) through paraphrasing, summarizing, and quoting with correct citation techniques;	Yes



N Non-Credit COURSE ID

18	ENGL	100	Writing Workshop	write an argumentative essay that generates novel ideas (those that add to the conversation rather than repeating the author's ideas) related to the topic and the readings;	Yes
19	ENGL	100	Writing Workshop	write compositions (e.g., summaries and argumentative essays) that are easy to read and follow, though some errors in grammar, mechanics, spelling, or diction may exist;	No
20	ENGL	100	Writing Workshop	proofread and edit essays for content, language, citation, and formatting problems.	Yes

EXIT STANDARDS

- 1. Describe the meaning of basic architectural vocabulary terms;
- 2. demonstrate proficiency in drawing on vellum and in the use of drawing instruments by the completion of various drawing assignments;
- 3. describe limited examples of the use of the International Building Code as it applies to residential construction.

STUDENT LEARNING OUTCOMES

- Describe the architectural terminology that are used in a typical architectural project.
- 2 Describe the tools and techniques necessary to draw a typical view of a residential structure using a Computer Aided Design (CAD) software program.
- 3 Evaluate a building by using the International Building Code for purposes of ensuring the safety of the building occupants.



N Non-Credit COURSE ID

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Introduction to the Study of Architecture • Function and design of a residential structure • Basic purpose of shelter • Room sizes • Traffic patterns within the home • Building code requirements • Architectural terminology • Styles of architecture • Past/Historic styles • Present trends • Architectural practice • Drafter/designer • Architect • Engineer	4	1	5
2	 Architectural Symbols Material symbols Interior section symbology Exterior materials Electrical and plumbing symbols Door and window types and symbols 	1	4	5
3	Projection Methods Visualization practice Orthographic projection Isometric projection Discussion of perspective projection	2	5	7
4	Architectural Lettering Lettering styles and practice Dimensioning	1	4	5





N Non-Credit COURSE ID

		1		
	Construction Techniques			
	 Wood framing methods 			
5	 Concrete foundation 	4	6	10
	 Application of finish materials 			
	 Roughing in plumbing and electrical fixtures 			
	 Building code requirements 			
	Building Materials and Components			
	Wood, stone, steel, concrete, brick, adobe			
	• Uses			
6	Limitations	3	8	11
	Reference manufacturer sources			
	Sweet's catalog			
	Other manufacturer's sources			
	Use of the Internet for research			
	Orientation of the Home			
_	Eff. to of our drawn have the	4	4	_
7	Effects of weather and sunlight	1	4	5
	Setback and size limitations			
	Zoning and economics			
	Architectural Working Drawings			
	Title sheet			
	Site plan			
	• Floor plan			
8	Foundation plan	4	34	38
	Foundation details			
	Section views			
	Electric plan			
	• Framing plan			
	Exterior elevations			
	Architectural Renderings			
9	Proper use of pencils and other media used in	1	2	3
9	architecture	'	۷	<u>ه</u>
	Sketching and delineation of architectural forms •			
	Landscape forms			



N Non-Credit
COURSE ID

	Use of the AutoCAD Computer Aided Design (CAD)			
10	Software Use of CAD tools used in architectural drafting Placing lines Adding dimensions Use of layers Creating and using blocks Proper scale for various architectural drawings Use of hatch patterns Placing text Use of the array tool Printing the drawing	5	9	14
11	Presentation of Final Project Portfolio of completed drawings Rendering of display drawings Purpose of architectural models Study models Finished models Computer models Final critique	1	4	5
	•			108

OUT OF CLASS ASSIGNMENTS

- 1 essay (e.g. write a description of job requirements for a drafter/designer and explain why these are necessary);
- 2 group projects (e.g. complete a design project such as a kitchen including cabinetry design).

METHODS OF EVALUATION

- 1 vocabulary quizzes. (e.g. eight quizzes of 10 terms each);
- 2 midterm examination and performance test. (e.g. timed drawing test of a basic architectural project);
- 3 final individual project. (e.g. drawings of a two-bedroom project with eight sheets of working drawings);
- final examination and performance test. (e.g. timed drawing test of a small residential project consisting of a floor plan, elevation and foundation detail).



N Non-Credit COURSE ID

METHODS OF INSTRUCTION

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

TEXTBOOKS

Title	Туре	Publisher	Edition	Medium	Author	IBSN	Date
The Professional Practice of Architectural	Required	New York: John Wiley	5	Print	Osama,Wakita	978111888 0524	2017
Working Drawings							