



# Honors Program Instructional Program Review

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## Executive Summary

The primary purpose of the Honors Program is help prepare highly motivated students for transfer, which includes the increased academic challenge of honors and the recognition of this achievement.

The Honors Program has been revitalized, achieving great growth while improving rigor and consistency. We have dramatically increased our current membership (442% since the start of the Honors Program when we had 12 Honors Program students, and 278% in the last six years, up from 19 Honors Program students to our current 53 Honors Program students), cut the wash-out rate in half, held steady on the graduation rate, and have a perfect 100% transfer rate. In short, far more students are entering, graduating from, and benefitting from the Honors Program.

The greatest change has been that the Honors Program is now available college-wide and students outside of Ridgecrest Indian Wells Valley campus are graduating from the Honors Program and being awarded our scholarships. This equity of opportunity is excellent for our students. However, this also points to a key goal of the Honors Program: increasing the numbers of students, especially students outside of the Ridgecrest Indian Wells Valley campus, who enroll in and complete the Honors Program. Given that our Honors Program students are well-prepared for transfer and do it exceedingly well—getting acceptances from most universities they apply to, often with scholarships—more students could benefit from completing the Honors Program.



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## Part 1—Relevance

### **1. Catalog Description**

Catalog Description: "The Cerro Coso Honors Program is designed to serve highly motivated students who are interested in a challenging and rewarding academic experience, preparing them for transfer to a four-year college. Honors Program students benefit from priority registration at Cerro Coso, scholarship opportunities, priority admissions at many universities, and other advantages through the Honors Program's transfer agreements with many UC, CSU, and private universities."

The Honors Program is an academic program designed to cross all other transfer-level programs. As such, the general nature of the catalog description is appropriate. The primary purpose of the Honors Program is to help prepare highly motivated students for transfer, which includes the increased academic challenge of honors but also the recognition of this achievement. Honors Program graduates are distinguished on transcripts and applications as having completed the Honors Program in addition to their regular academic requirements for degree and/or transfer preparation.

### **2. Program Learning Outcomes**

Program Learning Outcome (PLO): "Students completing the Cerro Coso Honors Program should feel secure in their academic preparedness for upper-division-level coursework and intellectual autonomy. To demonstrate this, in honors classes and/or contracts, students pursue topic(s) of independent research at an upper-division level, working beyond the topic and/or level or non-honors course study."

In order to capture the broad range of knowledge and skills across all transfer-level academic areas, the program learning outcome is purposefully general. In other words, students doing honors work in math do so at an upper-division level beyond the content of the non-honors math course, and students doing honors work in social science do so at an upper-division level beyond the content of the non-honors social science course. These certainly are not the same skills, so the Honors Program program learning outcome must encompass whatever skills are appropriate for each discipline. The Honors Program Coordinator and several Honors Program Committee representatives appropriate to each discipline review honors course outlines of record (CORs) and contract requests to ensure appropriateness of topic and rigor.

The Honors Program has assessed its program learning outcome in all honors courses and contracts, with a 91% satisfactory result. Each class and contract is assessed by the entire Honors Program Committee, using projects, typically a 2,500-word research paper or its equivalent, as the artifact. Having each project reviewed by at least two members of the Honors Program Committee rather than the course instructor provides an objective and consistent measurement, and this artifact is appropriate to the program learning outcome. The Honors Program Committee has implemented a policy that all



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honors classes and contracts must require a 2,500-word research paper or equivalent, allowing for consistent rigor across the program while allowing for some flexibility across disciplines, not expecting honors work in, say, speech and physics to be of the same type, only the same rigor and level.

To identify potential gaps, the Honors Program Committee has revised its program learning outcome assessment rubric, tracking honors courses/contracts, online/onsite, and types of assignments. Additionally, our assessment asks instructors for specific information about the type of assignment, the kinds and amount of research required, details about the assignment objectives. This is unique, perhaps, to honors projects since we assess a variety of disciplines, and while the program learning outcome is the same, the specific aims of research projects may vary from discipline to discipline.

### 3. Courses/Program Matrix

Honors courses come from a variety of disciplines:

ANTH	C121H	Physical Anthropology, Honors (4 units)
ART	C106H	History of Western Art II, Honors (4 units)
BIOL	C101H	Principles of Biology, Honors (4 units)
BIOL	C105H	Concepts of Biology, Honors (5 units)
BIOL	C111H	General Biology I, Honors (6 units)
BIOL	C112H	General Biology II, Honors (6 units)
CHEM	C113H	General Inorganic Chemistry II, Honors (6 units)
CHEM	C223H	Organic Chemistry II, Honors (6 units)
ENGL	C102H	Critical Thinking through Literature, Honors (5 units)
ENGL	C235H	Introduction to Shakespeare, Honors (4 units)
HIST	C103H	Western Civilization I, Honors (4 units)
HIST	C104H	Western Civilization II, Honors (4 units)
HIST	C131H	History of the United States I, Honors (4 units)
HIST	C132H	History of the United States II, Honors (4 units)
MATH	C121H	Elementary Probability and Statistics, Honors (5 units)
MUSC	C101H	Music Appreciation, Honors (4 units)
POLS	C101H	American Government, Honors (4 units)
PSYC	C101H	General Psychology, Honors (4 units)

The Honors Program is loosely organized: students complete 16 units of honors work, either from classes or contracts.

Since all honors classes and honors contracts fulfill our single program learning outcome, the path through the Honors Program can be fulfilled by completing 16 honors units, regardless of the specific honors class or contract. 16 units fulfills the University of California, Los Angeles (UCLA) Transfer



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Alliance Program (TAP) and Honors Transfer Council of California (HTCC) requirements. This open and flexible structure is consistent with all other community college honors programs in California.

### 4. Program Pathway

Honors classes are offered only at Ridgecrest Indian Wells Valley campus (students outside of the Ridgecrest Indian Wells Valley campus complete honors contracts instead of classes). The three-year longterm schedule follows:

Fall 2014	
ENGL C102H	Critical Thinking through Literature, Honors
MATH C121H	Elementary Probability and Statistics, Honors
MUSC C101H	Music Appreciation, Honors
POLC C101H	American Government, Honors
PSYC C101H	General Psychology, Honors
Spring 2015	
CHEM C113H	General Inorganic Chemistry II, Honors
ENGL C102H	Critical Thinking through Literature, Honors
ENGL C235H	Introduction to Shakespeare, Honors
HIST C104H	Western Civilization II, Honors
HIST C131H	History of the United States I, Honors
HIST C132H	History of the United States II, Honors
Fall 2015	
ANTH C121H	Physical Anthropology, Honors
ENGL C102H	Critical Thinking through Literature, Honors
ENGL C245H	Women's Literature, Honors
HIST C103H	Western Civilization I, Honors
MUSC C101H	Music Appreciation, Honors
POLC C101H	American Government, Honors
Spring 2016	
ART C106H	History of Western Art II, Honors
CHEM C113H	General Inorganic Chemistry II, Honors
CHEM C213H	Organic Chemistry II, Honors
ENGL C102H	Critical Thinking through Literature, Honors
ENGL C221H	World Literature I, Honors
HIST C131H	History of the United States I, Honors
HIST C132H	History of the United States II, Honors
Fall 2016	
ENGL C102H	Critical Thinking through Literature, Honors
ENGL C222H	World Literature II, Honors
MATH C121H	Elementary Probability and Statistics, Honors
MUSC C101H	Music Appreciation, Honors
POLC C101H	American Government, Honors



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PSYC C101H	General Psychology, Honors
Spring 2017	
CHEM C113H	General Inorganic Chemistry II, Honors
ENGL C102H	Critical Thinking through Literature, Honors
ENGL C235H	Introduction to Shakespeare, Honors
HIST C104H	Western Civilization II, Honors
HIST C131H	History of the United States I, Honors
HIST C132H	History of the United States II, Honors

There is no set pathway for completing the Honors Program. Students need 16 units of honors to complete the Honors Program and can develop their own pathways through the Honors Program based on honors courses and/or contracts. Honors students outside of the Ridgecrest Indian Wells Valley campus complete the Honors Program through honors contracts. Any UC-transferable course of three or more units is eligible for honors contracts.

The Honors Program Committee designs the long-term schedule to maximize honors course offerings based on student need, which is determined by enrollment data trends, while streamlining course offerings, which is done by combining multiple sections of a course and multiple courses, as shown in the table above, and by rotating several courses every other year. Social science offerings (PSYC C101H and ANTH C121H) in fall semesters are rotated with humanities offerings (ART C106H and HIST C104H) in spring semesters, with each course offered once every two years. Scheduling of honors courses varies by semester and avoids course conflicts as much as possible.

We offer four or five honors courses each semester, and since students can select 16 units from any of these over their time at Cerro Coso, with a little advance planning of their education plan, students can complete the Honors Program within one year. Honors Program students outside of the Ridgecrest Indian Wells Valley campus can also complete the 16 units within a year by doing two contracts a semester.

#### 4. Conditions of Enrollment

Students may apply to the Honors Program directly from high school with the following criteria:

1. Cumulative 3.25 grade point average (GPA) or higher
2. Eligibility for English 101

Cerro Coso students may apply to the Honors Program with the above and must also have

3. Completion of at least 12 units of UC-transferable courses from three or more disciplines

Note: with instructor's permission, a student may enroll in honors courses prior to acceptance into the Honors Program.

Analysis:



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1. The GPA prerequisite is a state-level standard approved by the UCLA Transfer Alliance Program. The 3.25 GPA has been in effect since 2009, when the Transfer Alliance Program review recommended we lower our 3.50 requirement to align with other community college honors programs.
2. The eligibility for English 101 prerequisite was added at the same time to help ensure Honors Program students were prepared to complete the research writing component. Now that the Honors Program Committee requires a 2,500-word honors-level research paper in all honors classes and contracts, this English prerequisite is, at best, a minimum level of proficiency in reading, research, and writing required for honors courses and contracts. Since non-honors students can enroll in honors classes, the Honors Program Committee has agreed to establish English 70 as a prerequisite for all honors courses. There is no statistical data available on honors courses to validate the comparative success in honors courses of students who are eligible for English 101 and those who are not; however, the exiting skills of English 70 match a minimal expectation for honors work. Requiring a lengthy research paper demonstrating upper-division-level skills—reading, research, analysis, writing, etc.—means students need at least English 70.
3. The Honors Program Committee believes that to demonstrate honors potential, students need to have a 3.25 cumulative GPA in a variety of academic disciplines, not a single subject; therefore, this prerequisite makes sense. Such a requirement is not necessary of high school students because their GPA is already based on a wide range of disciplines. Again, no validation study has been done on this prerequisite. This prerequisite was established several years ago when the Honors Program Committee noticed that students who had the minimum GPA in only one or two disciplines were at much greater risk of being unsuccessful in the Honors Program; however, this was in the days when Cerro Coso kept little data and did not do analysis. Honors faculty are in unanimous agreement that it is important as Honors Program students must be successful across multiple transfer-level disciplines.

In addition, the Honors Program also has requirements for students to remain in the Honors Program. To remain in good standing, Honors Program students must maintain at least a 3.25 cumulative GPA and complete at least one honors course or contract per year until 16 honors units are completed. If the cumulative GPA falls below a 3.25, students have one semester to recover it. After two semesters below a 3.25, students will be removed from the Honors Program. Students may request reinstatement once the minimum 3.25 cumulative GPA is regained. No honors units earned will be lost. Students who do not make annual progress toward completing the required 16 honors units will be removed from the program. They may request reinstatement once they meet with the Honors Program Counselor, Karee Hamilton, and outline a plan for completing 16 honors units. To remain in good standing and eligible for the benefits and privileges of the program, Honors Program students must be free of student conduct charges. These new requirements for good standing have meant that each semester we remove Honors Program students who are not making satisfactory progress or maintaining the minimum GPA. This streamlines our efforts, providing resources and opportunities only to eligible students, and also ensures a robust Honors Program with all students making progress. Even with this weeding out process, the number of Honors Program students has nearly tripled since our last review in 2009 (from



19 students to 53 students), so the concentration of the Honors Program's limited resources is appropriate.

## **Part 2—Appropriateness**

### **1. Connection to College Mission**

The Honors Program supports Cerro Coso's mission to provide academic instruction to promote fulfillment of four-year college transfer requirements and encourage degrees. The Honors Program encourages and recognizes students' academic excellence, degree completion, and transfer readiness.

The Honors Program's program learning outcome is to help prepare students for transfer, so the program is designed to help fulfill the college's first mission to provide transfer education.

A goal for the 2015-16 Annual Unit Plan (AUP) is to sustain program rigor. The Honors Program Coordinator works with faculty teaching honors classes and supervising honors contracts, and the Honors Program Committee assesses projects to verify implementation of Honors Program Committee's policies regarding rigor of honors projects, aiming at uniform and appropriate rigor. As explained above, we have been doing this type of program learning outcome assessment annually for a number of years and will continue to search for any discrepancies in rigor. Projects in every honors class and all honors contracts are assessed by the Honors Program Committee members to ensure consistency and appropriate rigor, and interventions are made whenever necessary.

### **2. Determination of Student Needs**

The Honors Program Committee makes its decisions entirely on student need for both classes and contracts.

There are no ongoing special learning support needs for the Honors Program beyond those provided by the library. Since all honors classes and contracts require a research paper, access to materials appropriate to each course is necessary. To better meet these needs, librarian membership will be added to the Honors Program Committee.

The Honors Program Committee serves as the advisory group for the Honors Program and meets regularly. The Honors Program Committee includes faculty representatives from all departments that offer honors classes, counseling, ACCESS, Extended Opportunities Program and Services (EOPS), and library, and the Vice President of Academic Affairs.

Honors Program Committee membership:



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Christine Swiridoff, Honors Program Coordinator, English faculty  
Karee Hamilton, Honors Program Counselor  
Corey Marvin, Vice President of Academic Affairs  
Ben Beshwate, History faculty  
Julie Cornett, Library Director  
Cliff Davis, English faculty, Department Chair  
Tom Foggia, Music faculty  
Matt Jones, History and Political Science faculty, Department Chair  
Sarah King, Anthropology and Sociology faculty  
Steve Rogers, Math faculty, Department Chair  
Debbie Rundell, Psychology and Human Services faculty  
Claudia Sellers, Biology faculty  
John Stenger-Smith, Chemistry faculty  
Penny Talley, ACCESS counselor, EOPS and CARE director

Honors classes: The long-term schedule of courses is based on a detailed analysis of enrollment data over the history of the Honors Program (spring 2009 through fall 2014), noting trends over the last six years and two years. Data was gathered by the Honors Program Coordinator, Christine Swiridoff, and assessed by the Honors Program Committee. Every course with a pattern of low or inconsistent enrollments was dealt with: either eliminated, combined with other honors courses, or alternated with other courses and thus offered less frequently.

Honors contracts: In its initial design, the Honors Program was available at Ridgecrest Indian Wells Valley campus only, excluding all Cerro Coso students at other college locations and online. The Honors Program finally achieved an important goal and expanded the Honors Program college-wide by adding honors credit through contracts, something many California community college honors programs do. This not only opened the Honors Program to students outside of the Ridgecrest Indian Wells Valley campus but has also increased the topics of study possible for all Honors Program students. All eligible Cerro Coso students have access to the Honors Program. We have had our first Honors Program graduate and Presidents Scholarship award students outside of the Ridgecrest Indian Wells Valley campus, both in spring 2014. Two more Bishop/Mammoth Lakes Eastern Sierra College Centers students are completing the Honors Program this semester. We offered our first honors class at Lake Isabella Kern River Valley campus, PSYC C101H and plan to expand it via interactive television (iTV) to Bishop/Mammoth Lakes Eastern Sierra College Centers as well. Through trends in Honors Program membership, the Honors Program Coordinator, Christine Swiridoff, continues to assess how to best meet the needs of our Honors Program students outside of the Ridgecrest Indian Wells Valley campus.

Current Honors Program students in good standing by location:

Ridgecrest Indian Wells Valley campus	83%	44 students
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Bishop/Mammoth Lakes Eastern Sierra College Centers	10%	5 students
CC Online	7%	4 students
Lake Isabella Kern River Valley	0%	0 students

### 3. Place of Program in Curriculum/Similar Programs

The Honors Program is unique at Cerro Coso. It is an academic program that does not award degrees or certificates; it designates students with completion of an advanced program not tied to any specific major. The Honors Program’s purpose to help prepare students for successful transfer goes beyond what students would achieve in their associate degree: certifying not just preparedness for transfer but completion at a more advanced level than non-Honors Program students. Universities recognize the Honors Program distinction for our transfer students, and this places our students at a great advantage when it comes to transfer. For example, statewide, students applying to transfer to UCLA without honors have a 20% acceptance rate; with honors, the acceptance rate is 74%. Like UCLA, UC Irvine contacts us to identify which of the Cerro Coso students applying have graduated from our Honors Program. The distinction is not just a feel-good accolade: it means increased acceptance rates and scholarships.

Cerro Coso Acceptance Rates to UCLA:

	2011	2012	2013	2014	Average
<b>TAP (Honors)</b>					
Applied	5	3	4	4	
Admitted	3	1	2	4	
	60%	33%	50%	100%	63%
<b>Non-TAP (Not Honors)</b>					
Applied	11	9	6	7	
Admitted	2	2	1	1	
	18%	22%	17%	14%	18%

The number of Cerro Coso’s applicants is so low that it is difficult to draw consistent conclusions. For example, in 2012, most of the Cerro Coso honors students applying to UCLA applied to their English program, one of the toughest in the state, and since we lacked an English degree at the time, they had not fulfilled their prerequisites. Interestingly, both of these students rejected by UCLA were accepted to UC Berkeley, the top-ranked English program in the United States. However, the college and state trends show that honors program graduates transfer at significantly higher rates. This is not just because Honors Program students tend to have higher GPAs; UCLA grants Transfer Alliance Program students (our Honors Program graduates) a second major (as long as their first major is not impacted, like English). This "second chance" major is not offered to any UCLA applicants other than Honors Program graduates.



#### 4. Majors and Completers

The number of Honors Program students has been holding steady or climbing over the past several years. Since its inception in 1998, about 170 students have entered the Honors Program. Based on our own records, of those who enter the Honors Program, 71% graduate from the Honors Program. Many of our members enter as high school seniors, and most of those non-completers have been these students who had high GPAs in high school but failed to duplicate this GPA at Cerro Coso, or who applied to the Honors Program while in high school but never completed any honors units. Of the 170 who have entered, about 31% (53 students) of those are currently in the program, 44% (75 students) have graduated, and 25% (42 students) have either washed out, graduated without completing the program, or been removed for insufficient progress. A few of these later may regain their GPA or make progress; if so, they can be readmitted to the Honors Program.

Improvements: We have dramatically increased our current membership (442% since the start of the Honors Program), cut the wash-out rate in half, held steady on the graduation rate, and have a perfect transfer rate. In short, far more students are entering, graduating from, and benefitting from the Honors Program.

Averages	1998-2008	2008-09	2014-15
Current members	12	19	53
Membership increase from previous six years	0%	158%	278%
Annual graduates	4	4	16
Annual graduate increase from previous six years	0%	0%	400%
Graduation rate	71%		71%
Washout rate	57%		29%
Transfer rate	99%		100%

Last year, we started making a concerted effort to help students complete the Honors Program. Every semester, the Honors Program Coordinator, Christine Swiridoff, looks up the current GPA and number of honors units completed for every student in the Program, and the Honors Program Counselor, Karee Hamilton, contacts students to inform them of their status: making good progress with the number of honors units remaining until program completion, warning of low GPA, warning of lack of honors units completed, etc. This effort is too new for us to have any data on its effectiveness in retaining students and helping them make steady progress completing the Program, but we believe such communication and information can only be positive. It means that our current membership of 53 looks lower and our wash-out rate looks higher than it would if we had kept to the previous practice of not removing students failing to make progress. But we are hopeful that this new method of communication will help more students complete as all Honors Program students will be reminded every semester what they need to do in order to finish the Honors Program.



**5. Summary of Student Demand Data**

Honors Course Enrollment Patterns for Past Six Years

	Spr 09	Fall 09	Spr 10	Fall 10	Spr 11	Fall 11	Spr 12	Fall 12	Spr 13	Fall 13	Spr 14	Fall 14	6-yr avg.	2-yr avg.
BIOL C101H		4											9 combo	Not offered
BIOL C105H														
BIOL C111H		5												
BIOL C112H														
CHEM C113H	8		5		7		10		7		8		10 combo	9 combo
CHEM C223H			2				4				4			
ENGL C101H						5		7					6	cut
ENGL C102H	8	5	5	5	3	14	7	6	12	10	10	5	8	9
HIST C103H		11		11		7		12					10	cut
HIST C104H	16		9		11		11		7		4		10	6
HIST C131H								5		11	8	8	7	10 combo
HIST C132H										11		1		
MATH C121H		11		9		6		2		4		3	6	4
MUSC C101H		13		10		4		6		5		13	9	9
POLS C101H			9				3			11		7	7	9
PSYC C101H	6		4		7		3		2	14		4	6	6

Retention rates are 90-100% for honors classes. Based on these enrollments trends in the past six years and two years, the Honors Program Committee made several changes, focusing on the problem course enrollments highlighted in yellow: MATH C121H, HIST C104H, and PSYC C101H will now be offered once every other year. HIST C103H, which had good enrollments, was added back into the schedule once every other year. ENGL C102H, which all Honors Program students take because it is required for UC transfer, will now be combined with an honors section of each semester’s literature class, both doubling the English honors offerings for students without increasing costs and maximizing enrollments. Student demand for Biology honors is too inconsistent for placement in the long-term schedule. And ENGL C101H was cut because of inconsistent enrollment and success.

Success and Retention Rates in Honors Courses: 2009-10 through 2013-14

	Success	Retention
BIOL C105H	75%	75%
BIOL C112H	100%	100%
CHEM C113H	97%	100%
CHEM C223H	100%	100%
ENGL C101H	63%	100%
ENGL C102H	84%	96%
HIST C103H	83%	95%
HIST C104H	93%	98%
HIST C131H	85%	100%



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HIST C132H	82%	91%
MATH C121H	81%	97%
MUSC C101H	97%	100%
POLS C101H	97%	100%
PSYC C101H	93%	93%

Success and Retention Rates in Honors Contracts: 2011 through 2014

Completion	
Contracts (113)	79%

Of 113 honors contract attempts since the spring of 2011, 89 contracts were completed, for a 79% completion rate. Many of the non-completers dropped the contract in the very first weeks, realizing that the demands of the non-honors course were challenging enough without the addition of the contract work (and no costs were incurred to the college for these early drops). A few other students made it through most of the semester's work but failed to submit the final contract project. In the initial years of honors contracts, some non-Honors Program students outside of Ridgecrest Indian Wells Valley campus were permitted to attempt an honors contract, much like non-Honors Program students can enroll in honors classes; however, a disproportionate number of these students struggled and were more likely to not complete the contract. Since then, tighter restrictions have been placed on which students may attempt contracts, with little exception for students not currently in good standing in the Honors Program. Also, Ridgecrest Indian Wells Valley campus Honors Program students are now limited to one contract, with the remaining units coming from honors classes.

### 6. Current Cost of the Program to Students

Students completing the Honors Program through courses will pay an additional \$46 for each honors class. Most students need four honors classes to complete the Honors Program, for a total of \$184, plus whatever additional books might be assigned for the honors course.

Students completing the Honors Program through contracts will pay no additional cost since contracts do not require additional units. Students completing contracts may need to pay for additional books as assigned.

The costs are as low as they can be: an entire program for four units or none. Many instructors make use of library resources for honors projects and assign few books, which are never separate textbooks. They tend to be affordable books, such as novels or non-fiction texts.

## Part 3—Currency

### 1. Staffing



Current staffing is minimal but sufficient. Honors classes and contracts are taught by full-time and part-time faculty across the college. The Honors Program is run by the Honors Program Coordinator with the assistance of the Honors Program Counselor and direction from the Honors Program Committee.

## **2. Professional Development**

The Honors Program Coordinator, Christine Swiridoff, provides professional development college-wide to inform faculty and staff of the Honors Program and honors contracts, and she works one-on-one with individual faculty teaching honors classes or contracts.

## **3. Facilities and Physical Resources**

The Honors Program has no specific facility or equipment outside of what is already provided by the college for onsite and online teaching, nor does it have any specific needs beyond these.

## **4. Technology**

Honors classes and contracts run in conjunction with non-honors courses, so they need no further technology than the regular non-honors courses. The Honors Program requires that all honors papers for classes and contracts be submitted to Turnitin.com, which the college already provides. The Honors Program Coordinator provides one-on-one assistance in setting up and using Turnitin.com.

## **5. Marketing**

Marketing efforts continue. The Honors Program is represented at various college events aimed at incoming high school seniors. The Honors Program Coordinator has done numerous outreaches, including information sessions for students at Ridgecrest Indian Wells Valley campus with videoconference connections to all Cerro Coso sites, several videoconferences with faculty and staff at the sites beyond the Ridgecrest Indian Wells Valley campus, and multiple visits to Bishop/Mammoth Lakes Eastern Sierra College Centers. We are now implementing a two-pronged approach: educate Cerro Coso students about the Honors Program and its benefits and educate Cerro Coso faculty (particularly those outside of the Ridgecrest Indian Wells Valley campus) about the Honors Program and how honors contracts work.

In addition to the college events the Honors Program Coordinator attends to promote the program, eligible students are contacted directly with information about the Honors Program. Emails are sent to eligible Cerro Coso students, and letters are sent to eligible high school seniors, with information about relevant scholarships for Honors Program students and the Honors Program brochure. This brochure and posters are on display at every Cerro Coso site, and these materials and the web site are regularly updated for accuracy.



### Part 4—Student Achievement

#### 1. Course-Level Student Performance Data

74 students have graduated from the Honors Program, and the trend has been good. For many years, four students graduated annually; now that number holds steady at eight or nine a year. This semester, we expect to have 16 graduates. And we have moved beyond Ridgecrest Indian Wells Valley campus to have Honors Program graduates at Bishop/Mammoth Lakes Eastern Sierra College Centers as well: one in spring 2014 and two for 2015.

In the history of the Honors Program, starting in 1998, we have had only one graduate not transfer, and that was his personal choice to end his academic career and work for his family instead of moving and continuing his education. So, shy of a perfect record by just one student, 99% of our Honors Program students transfer, with 100% since our last program review.

We have had a steady number of honors students selected to present their research at the annual Honors Transfer Council of California (HTCC) Undergraduate Research Conference at UC Irvine. Every year since 2008, our students have presented original research, and some have received scholarships and publication credit. The Honors Program also awards these students a research scholarship in recognition of their achievement.

#### 2. Summary of Achievement of Student Learning Outcomes

Student learning outcome assessment of honors courses is done by the faculty within each department. The student learning outcomes for each honors course are identical to those in the non-honors version of the course with one addition: “analyze a topic appropriate for intensified study beyond the scope of the non-honors class, using university-level readings and vocabulary and demonstrating intellectual independence.” This student learning outcome is assessed through a 2,500-word research paper (or equivalent) and is scored by a rubric. The specific wording of this student learning outcome varies a bit between classes. For example, CHEM C113H states, “Demonstrate an understanding of special topics in analytical and organic chemistry, and apply these concepts towards the synthesis of an original research paper and presentation.” The additional oral presentation is also scored by a rubric.

Of the honors courses offered in recent years, 64% have been assessed:

	Satisfactory	Unsatisfactory
ANTH C121H		<i>New course</i>
ART C106H		<i>New course</i>
BIOL C101H		<i>Not offered</i>



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BIOL C105H	<i>Not offered</i>	
BIOL C111H	<i>Not offered</i>	
BIOL C112H	<i>Not offered</i>	
CHEM C113H	100%	0%
CHEM C223H	100%	0%
ENGL C102H	100%	0%
ENGL C235H	<i>New course</i>	
HIST C103H	Will be assessed fall 2015	
HIST C104H	100%	0%
HIST C131H	Will be assessed spring 2015	
HIST C132H	Will be assessed spring 2015	
MATH C121H	100%	0%
MUSC C101H	100%	0%
POLS C101H	80%	20%
PSYC C101H	Will be assessed spring 2016	

The missing student learning outcome assessments come from one department, which now has a new chair and a new instructor for HIST C103H and HIST C131H. All of the remaining honors courses are scheduled to be assessed the next time they are offered, as indicated.

The achievement level for honors courses is unusually high; however, there are many reasons to explain this. One, most of these are honors students, obviously, and enter these classes with above-average skills, making them more likely to complete and succeed. Non-honors students also enroll in honors classes, but they do so only with instructor's permission. Two, unlike the non-honors course, honors is entirely elective: no one is required to take an honors course, so those enrolled are likely more motivated. Struggling students tend to shy away from honors classes. Three, these courses are all taught by experienced full-time faculty, so these students are getting some of the best Cerro Coso has to offer. Fourth, the classes are small by design, and the low enrollment has a two-fold effect: more instructor attention and more intellectual engagement (there is nowhere to hide and the level of discussion is raised by the higher level of students). In this way, honors instructors and honors classes can make honors students. Not all of these students come to us as honors students, but we can help them become honors students in this kind of environment.

### 3. Student Learning Outcome Gaps Identified

No gaps identified. Student learning outcomes are only assessed in honors classes, not contracts, so these courses are only offered by full-time faculty at Ridgecrest Indian Wells Valley campus. Student learning outcome assessment does not take into consideration if the single student unsuccessful was a member of the Honors Program or a non-honors student in the course; regardless, a single unsuccessful student is too small of a sample size for any accurate inferences and cannot tell us anything about gaps. The only identifiable gap is in completion of the student learning outcome assessment, as already mentioned.



#### 4. Student Learning Outcome Improvements Planned

Program	Course	Student Learning Outcome	Improvements to Be Made	Reassessment
HIST	C103H	Honors student learning outcome	Complete Honors student learning outcome assessment	Fall 2015
HIST	C131H	Honors student learning outcome	Complete Honors student learning outcome assessment	Spring 2015
HIST	C132H	Honors student learning outcome	Complete Honors student learning outcome assessment	Spring 2015
PSYC	C101H	Honors student learning outcome	Complete Honors student learning outcome assessment	Spring 2016

#### 5. Summary of Achievement of Program Learning Outcomes

The Honors Program Committee annually assesses the program learning outcome by reading the final projects from honors classes and contracts. By January 2014, we assessed 100% of honors courses offered and all honors contracts. As before, results were quite satisfactory:

Target: 75%

Results: 91% (significantly higher than target, and higher than last year)

Since the numbers are very low (contracts may only have one student), we have assessed the program as a whole, not individual courses, combining all of the following:

- Classes: CHEM C113H, CHEM C223H, ENGL C102H, HIST C103H, HIST C104H, HIST C131H, HIST C132H, MATH C121H, MUSC C101H, POLS C101, PSYC C101H
- Contracts: ADMJ C101, ANTH C131, ART C105, ART C106, BIOL C105, BIOL C112, BIOL C261, CHDV C106, CHEM C111, CSCI C101, ECON C103, ENGL C101, ENGL C102, ENGL C235, ENGL C245, HIST C104, HIST C131, HIST C132, HSCI C101, LATN C202, MATH C121, MUSC C101, PHSC C111, PHSC C112, PHYS C113, PHSC C125, POLS C101, POLS C102, PSYS C111, RUSS C202

However, if a pattern has been noted by the Honors Program Committee, such as low performance in one course during an assessment session, the Honors Program Coordinator and Committee representative meet with that instructor and the department chair to discuss these gaps and provide samples as good models of honors projects. The course is reassessed when again offered.

Students completing the Cerro Coso Honors Program should feel secure in their academic preparedness for upper-division-level coursework and intellectual autonomy; therefore, the single program learning outcome for the Honors Program, similar to the course outlines of record for honors courses, focuses





on the level of work: "Pursue topic(s) of independent research at an upper-division level, working beyond the topic and/or level or non-honors course study." To achieve this, in each Honors class/contract, the student should demonstrate competent upper-division-level work in at least one of the following: articulating a sound argument, synthesizing and analyzing information from a variety of sources, effective research skills, or quantitative reasoning.

In our last Annual Unit Plan, the improvement identified was to assess for consistency across all honors courses and honors contracts, maintaining consistent expectations and standards, regardless of how the student earns honors credit. We believe we are doing this. Additionally, we made policy changes so that for the first time, all honors classes will have a uniform rigor, specifically a 2,500-word research project.

Future improvements will be aimed at ensuring this uniform rigor in classes and contracts, regardless of instructor, location, or format. We have developed a much more robust program learning outcome assessment form that requests specific information from faculty. In addition to tracking class/contract and online/onsite, we will ask specific information about the type of assignment, the kinds and amount of research required, details about the assignment objectives. This is unique, perhaps, to honors projects since we assess a variety of disciplines, and while the program learning outcome is the same, the specific aims of research projects may vary from discipline to discipline. The Honors Program Committee believes it can better assess projects if this information is provided. We will implement this in our next assessment session.

## **6. Program Learning Outcome Gaps Identified**

Overall, honors classes and contracts show overwhelming student performance. That said, during our assessment process, we identified some gaps in specific honors courses. These have been addressed in subsequent discussions with honors faculty, and we continue to make efforts to close these isolated achievement gaps.

In previous assessments, we have examined all honors projects together, combining classes and contracts. Last year, the Honors Program Committee determined that we needed to identify possible gaps between honors courses and honors contracts, so in this most recent assessment round, we tracked all variables: class vs contract, onsite vs online. There were no significant achievement gaps noted in classes and contracts. We noted that contract completion is a greater challenge for CC Online students; however, the numbers of online honors students is so small that one student is responsible for the shift in numbers. Until we have more online contracts, we are unable to make any valid determination about achievement gaps.

## **7. Program Learning Outcome Improvements Planned**



## Honors Program Instructional Program Review

We plan to improve our program learning outcome assessments by gathering more information from instructors on the specific objectives for their assignment.

Program Learning Outcome	Improvements to Be Made	Reassessment																					
<i>Pursued topic(s) of independent research at an upper-division level, working beyond the topic and/or level or non-honors course study</i>	1. Since courses in various disciplines have different expectations, we also ask each instructor to identify the objectives of their specific honors assignment using the following chart: <table border="1" style="margin-left: 20px; width: 100%;"> <thead> <tr> <th style="width: 60%;">In each Honors class/contract, student demonstrated competent upper-division-level work beyond the level/scope of the regular class in <u>at least one</u> of the following (mark all that apply to your assignment):</th> <th style="width: 20%;">Applies to assignment</th> <th style="width: 20%;">Does not apply to assignment</th> </tr> </thead> <tbody> <tr> <td>Types of readings</td> <td></td> <td></td> </tr> <tr> <td>Quality and depth of research</td> <td></td> <td></td> </tr> <tr> <td>More demanding critical analysis</td> <td></td> <td></td> </tr> <tr> <td>Expanded vocabulary</td> <td></td> <td></td> </tr> <tr> <td>Deeper analysis</td> <td></td> <td></td> </tr> <tr> <td>Intellectual autonomy</td> <td></td> <td></td> </tr> </tbody> </table>	In each Honors class/contract, student demonstrated competent upper-division-level work beyond the level/scope of the regular class in <u>at least one</u> of the following (mark all that apply to your assignment):	Applies to assignment	Does not apply to assignment	Types of readings			Quality and depth of research			More demanding critical analysis			Expanded vocabulary			Deeper analysis			Intellectual autonomy			Spring 2016
	In each Honors class/contract, student demonstrated competent upper-division-level work beyond the level/scope of the regular class in <u>at least one</u> of the following (mark all that apply to your assignment):	Applies to assignment	Does not apply to assignment																				
Types of readings																							
Quality and depth of research																							
More demanding critical analysis																							
Expanded vocabulary																							
Deeper analysis																							
Intellectual autonomy																							
	2. We will analyze program learning outcome data by multiple variables to identify potential gaps.	Spring 2016																					

### Part 5—Action Plans

#### **1. Analysis of Current Program Strengths**

In the past several years, the Honors Program has been revitalized. After several years of consistent but small numbers, the Honors Program has achieved great growth and simultaneously improved rigor and consistency. The greatest change has been that the Honors Program is finally available college-wide and students outside of the Ridgecrest Indian Wells Valley campus are graduating from the Honors Program and being awarded our scholarships. This equity of opportunity is excellent for our students.

Students are taking advantage of the benefits of the Honors Program. Every year since 2008, we have had Honors Program students present their research at the Honors Transfer Council of California (HTCC) Undergraduate Research Conference, held annually at UC Irvine, and a number of our students have won Honors Transfer Council of California awards and scholarships. Every fall, many Honors Program students attend the UCLA Transfer Conference to get more information about UCLA and transfer opportunities.



Most importantly, our Honors Program students are well-prepared for transfer and do it exceedingly well, getting acceptances from most schools they apply to, often with scholarships.

## 2. Analysis of Improvements Needed

The Honors Program is not being taken advantage of by many eligible students. Obviously, not all students eligible for the Honors Program are interested in doing the extra honors classes/contracts, seeking instead to focus on completing their degrees. And a large majority of Honors Program students are at Ridgecrest Indian Wells Valley campus. While the Honors Program has expanded college-wide, CC Online students seem to have a more difficult time completing the program. Our online numbers are too small to draw any solid conclusions, but the paucity of online students in the Honors Program itself indicates a deficiency. Very few online students join the Honors Program, and, to date, no online student has completed the program. Even more disheartening, no students from Lake Isabella Kern River Valley Campus have joined the Honors Program or even attended an informational session. And Lake Isabella Kern River Valley Campus is the only campus other than the Ridgecrest Indian Wells Valley campus to offer an honors class, so this seems particularly puzzling.

When honors contracts were first implemented, the Honors Program looked, perhaps for the first time in a coordinated way, at consistency in honors work. This has then carried over into honors classes, where the expectations are now far more explicit. However, more work is needed to ensure 100% compliance in this consistency, which must still be balanced with instructors' freedom, variety, and differing disciplines.

## 3. Three-Year Program Strategies

### A. Growth

- Concise description of the strategy: Sustain program growth by mailings and informational sessions to educate Cerro Coso students about the Honors Program and its benefits and by workshops to educate Cerro Coso faculty (particularly those outside of the Ridgecrest Indian Wells Valley campus) about the Honors Program and how contracts work
- Measurement of completion: Number of Honors Program members
- Timeline: Annual mailings to eligible Cerro Coso students and eligible high school seniors, annual informational session with students, faculty sessions (scheduled for April 2015)
- Role(s) responsible: Honors Program Coordinator

### B. Rigor

- Concise description of the strategy: Sustain program rigor on the front end by working with faculty teaching honors classes and supervising honors contracts and on the back end by assessing projects to verify implementation of Honors Program Committee's policies regarding rigor of honors projects, aiming at uniform and appropriate rigor



- Measurement of completion: Satisfactory program learning outcome assessments showing consistent rigor in Honors Program classes and contracts
- Timeline: Assess program learning outcome every two years and close any gaps identified
- Role(s) responsible: Honors Program Coordinator and the Honors Program Committee

#### **4. Six-Year Program Strategies**

##### **A. Growth**

- Concise description of the strategy: Sustain program growth by moving more students through the Honors Program
- Measurement of completion: Number of Honors Program graduates
- Timeline: Every semester, inform Honors Program students of their progress through the Honors Program, with specific GPA and number of honors units completed, outlining any deficiencies and necessary remediation, such as improve GPA within one semester, see counselor for advising and creation of a plan to complete the Honors units, or enroll in honors course
- Role(s) responsible: Honors Program Coordinator and Honors Program Counselor

##### **B. Consistent prerequisites**

- Concise description of the strategy: Establish ENGL C070 as a prerequisite for all honors courses
- Measurement of completion: Consistent prerequisites of ENGL C070 in all honors courses
- Timeline: As course outlines of record are updated, change prerequisite of honors courses to ENGL C070
- Role(s) responsible: Honors Program Coordinator and discipline area faculty



**Part 6—Supporting Documentation**

The following data is to be supplied by the Office of Institutional Research:

**1. Section Level data by course (5 year aggregate broken out online, onsite, combined)**

Note: since this focuses exclusively on honors courses, this data excludes all honors contracts, and honors courses include non-Honors Program students, so this information does not accurately reflect what is true for Honors Program students, only students in honors classes

\* Indicates courses offered in combination (multiple sections combined in one class) for BIOL C105H/112H, CHEM C113H/223H, and HIST C131H/C132H

Honors Classes 2009-2014	# sections	First day	Census	End of Term	FTEs	FTEF	FTEs/FTEF	Retention	Success	Method
BIOL C101H	0									
BIOL C105H*	1	3	4	3	.97	.03	32.33	75%	75%	F2F
BIOL C111H	0									
BIOL C112H*	1	2	5	5	1.37	.03	45.67	100%	100%	F2F
CHEM C113H*	5	11	37	37	10.23	.35	29.22	100%	97%	F2F
CHEM C223H*	3	3	10	10	2.80	.21	13.33	100%	100%	F2F
ENGL C101H	2	3	12	16	2.09	.14	14.92	100%	63%	F2F
ENGL C102H	10	17	77	74	10.93	.65	16.82	96%	84%	F2F
HIST C103H	4	18	41	39	5.98	.28	21.36	95%	83%	F2F
HIST C104H	5	16	42	41	5.97	.35	17.06	98%	93%	F2F
HIST C131H*	2	2	13	13	1.77	.14	12.64	100%	85%	F2F
HIST C132H*	1	6	11	10	1.50	.07	22.43	91%	82%	F2F
MATH C121H	5	14	32	31	5.75	.35	16.43	97%	81%	F2F
MUSC C101H	5	31	38	40	5.34	.34	15.70	100%	97%	F2F
POLS C101H	5	3	23	23	3.18	.21	15.14	100%	97%	F2F
PSYC C101H	5	3	30	28	4.32	.35	12.34	93%	93%	F2F

**2. Student Demography by discipline (5 years aggregate)**

- a. Headcount: This information is not available for the Honors Program
- b. Age: This information is not available for the Honors Program
- c. Gender: This information is not available for the Honors Program
- d. Ethnicity: This information is not available for the Honors Program



3. **Awards (5 years):** 107
4. **Others as appropriate, in consultation with the Institutional Researcher**

**The following data is to be supplied by the department:**

1. **Student learning outcomes Reports for all courses within the program(s) (from CurricUNET):**  
Attached
2. **Program Learning Outcome Report for each program (from CurricUNET):** None
3. **Advisory Committee Meeting minutes (CTE Only):** None
4. **Others, as appropriate, such as department minutes, employer surveys, marketing brochures:**  
Brochure and Honors Program Committee minutes attached



HonorsBrochure.pub

## Scholarship Opportunities

### President's Honors Scholarship for New Honors Program Students

The scholarship is an award of \$1,000 to an excellent local high school graduating senior who has been accepted to the Cerro Coso Community College Honors Program and who attends Cerro Coso in the fall semester. To receive the scholarship, the recipient must remain eligible for acceptance into the program after awarding of fall grades.

### Faculty Honors Scholarships for Transferring Honors Students

The Faculty Honors Scholarship for a Transferring Student is awarded in the spring for a student who has completed the Honors Program and has been accepted at a four-year college or university. The scholarship awards \$500.

### Faculty Honors Research Scholarships

The Faculty Honors Research Scholarship supports students who present their work at the Honors Transfer Council of California Student Research Conference at UC Irvine. The scholarship pays all expenses associated with attendance at the conference.

Scholarship applications are available from the Honors Program Counselor, the Honors Program Coordinator, or online at [www.cerrococo.edu/academics/honors-program](http://www.cerrococo.edu/academics/honors-program).

For further information, please contact the Honors Program Coordinator at [honors@cerrococo.edu](mailto:honors@cerrococo.edu).

*"The increased intensity of the Honors courses stimulates and challenges my perspective on things. Along with other Honors students, together you delve deeper into the subject."*

— Christina Vega, Honors Program

*"Cerro Coso and the Honors Program have been a great experience for my daughter. She was able to be involved in the school and have a lot of one-on-one time with professors and counselors. I will be singing the praises of Cerro Coso and the Honors Program to anyone who will listen. Brittany's time at Cerro Coso was positively enriched and enhanced by the program. As a parent I couldn't have asked for a better experience and outcome for my daughter due in large part to Cerro Coso."*

— Christine Smith, parent of Brittany Smith, Honors Program graduate and winner of the Cerro Coso Faculty Honors Scholarship and the Student Excellence Scholarship from the Honors Transfer Council of California Research Conference, transferred to UCLA

## For More Information, Forms, and Applications

Visit our website at [www.cerrococo.edu/academic-programs/honors](http://www.cerrococo.edu/academic-programs/honors)

Honors Program Coordinator  
Dr. Christine Swiridoff  
760.384-6312  
Email: [honors@cerrococo.edu](mailto:honors@cerrococo.edu)

Honors Program Counselor  
Karee Hamilton  
760.384.6219  
Email: [khamilton@cerrococo.edu](mailto:khamilton@cerrococo.edu)

## Honors Program

Cerro Coso Community College  
3000 College Heights Boulevard  
Ridgecrest, California 93555  
Phone: 760.384.6100  
Fax: 760.375.4776



HONORS  
— Cerro Coso Community College —  
PROGRAM

*"Coming from UC Davis, I initially had low expectations for Cerro Coso. But when I joined the Honors Program, the personal attention that the professors gave and the intelligence that they displayed made me feel like I was attending a top-rate university with just 15 students."*

— Jeff Peoples, Honors Program graduate, transferred to UCLA

## Who Is the Program for?

Students who have high educational goals and are interested in courses designed to appeal to the imagination and challenge the intellect will find the Cerro Coso Community College Honors Program the place to be. Students should apply to the Honors Program if they are stimulated by ideas, tend to be skeptical of definite answers or easy solutions, and are in pursuit of an education and not just a degree.

## Benefits for Honors Students

- Priority admissions, extra scholarships, guaranteed housing, priority registration, and other benefits through transfer agreements at UCLA, UC Irvine, UC Riverside, CSU Fullerton, CSU Long Beach, San Diego State University, Chapman University, Pitzer College, Cal Poly Pomona College, San Jose State University, University of San Diego, Whitman College, Pacific University, La Sierra University, Occidental College, and Pomona College
- Scholarship opportunities through the Cerro Coso Honors Program, the Honors Transfer Council of California, Whitman College, and other private universities
- Opportunity to present research at the HTCC Honors Research Conference, hosted by UC Irvine
- Opportunity to attend UCLA Transfer Conference
- Priority registration at Cerro Coso
- Small honors seminars or credit through contracts, where students take a more active role in their learning and work closely with instructors to pursue topics of independent study
- Honors designation on college transcripts
- Opportunity for letters of recommendation from Honors Program faculty for scholarships, transfer applications, and employment
- Honors award ceremonies and graduation regalia

## Eligibility for Honors Program

### *New Students*

To be eligible for the Honors Program, a graduating high school student must attain a cumulative 3.25 GPA or higher and be eligible for English C101.

Graduating high school students must submit a completed application with two letters of recommendation from high school instructors or, in the case of home schooling, from two persons knowledgeable about the student's ability.

### *Continuing College Students*

To be eligible for the Honors Program, a continuing Cerro Coso student must attain a cumulative 3.25 GPA or higher, including at least 12 units of UC transferable courses from three or more disciplines, be eligible for English C101, and submit a completed application.

Note: a student may enroll in honors courses prior to acceptance into the Honors Program but may not complete honors contracts until accepted into the program.

## Application

To apply to the Honors Program, students must submit a completed application form to the Honors Program Coordinator: [honors@cerrocoso.edu](mailto:honors@cerrocoso.edu). If coursework was completed at another institution, transcripts must be provided. High school students applying before their first year at Cerro Coso must submit a copy of their high school transcripts.

Applications are available online at [www.cerrocoso.edu/academics/honors-program](http://www.cerrocoso.edu/academics/honors-program).

For further information, contact the Honors Program Coordinator at [honors@cerrocoso.edu](mailto:honors@cerrocoso.edu).

For more information and forms, visit [www.cerrocoso.edu/academics/honors-program](http://www.cerrocoso.edu/academics/honors-program)

## Completion Requirements

To be certified as an Honors Program graduate, a student must

- take a total of 16 or more units of Honors credit, either through honors courses, contracts, or a combination of the two, earning at least 4 units per academic year toward the 16 required units
- maintain a cumulative grade point average of at least 3.25
- apply for graduation from the Honors Program with the Honors Program Coordinator
- meet the Cerro Coso graduation requirements or the transfer requirements to a four-year college
- be free of Student Conduct Policy charges

Note that Honors students intending to complete a major or IGETC package should discuss their plans with the Honors Program Counselor to ensure all requirements are met.

## Honors Program Courses

For a list of upcoming Honors Program classes, currently only offered at the Ridgecrest campus, visit [www.cerrocoso.edu/academics/honors-program](http://www.cerrocoso.edu/academics/honors-program)

## Honors Program Contracts

Honors contracts are an alternative way for Honors Program students outside of the Ridgecrest area to earn honors credit to complete the program. An honors contract is a signed agreement between the student and an instructor outlining an independent program of study designed by the student and instructor in a non-honors course. IWV honors students are limited to one honors contract.

All UC-transferable Cerro Coso courses of three or more units are eligible for honors contracts. For a list of these classes, forms, and more information, see [www.cerrocoso.edu/academics/honors-program](http://www.cerrocoso.edu/academics/honors-program).



Cerro Coso College

# Course Outline of Record Report

05/01/2018

## ANTHC121H : Biological Anthropology Honors

### General Information

Author(s):	<ul style="list-style-type: none"> <li>• Sarah King</li> <li>• Griffin, Alec</li> <li>• Swiridoff, Christine</li> </ul>
Subject (CB01):	ANTH
Number (CB01):	C121H
Course Title (CB02):	Biological Anthropology Honors
Department:	Social Science
Proposal Start:	Fall 2018
TOP Code (CB03):	(2202.00) Anthropology
SAM Priority Code (CB09):	Non-occupational
Distance Education Approved:	Yes
Course Control Number (CB00):	CCC000547176
Curriculum Committee Approval Date:	12/04/2015
Board of Trustees Approval Date:	03/10/2016
External Review Approval Date:	07/18/2013
Course Description:	This course examines humans as biological organisms from an evolutionary perspective. Areas covered include concepts, methods, findings, and issues in the study of the order primates, including relationships between fossil monkeys, apes and humans, and the significance of genetic diversity among modern populations. The honors course provides more content and requires greater intensity and depth of study than the non-honors class.
Submission Rationale:	Mandatory Revision  Changing title to fit discipline standards

### Faculty Requirements

Master Discipline Preferred:	<ul style="list-style-type: none"> <li>• Anthropology</li> </ul>
Alternate Master Discipline Preferred:	No value

<b>Bachelors or Associates Discipline Preferred:</b>	No value
<b>Additional Bachelors or Associates Discipline:</b>	No value

## Course Development Options

### Course Basic Skill Status (CB08)

Course is not a basic skills course.

Allow Students to Gain Credit by Exam/Challenge

### Rationale For Credit By Exam/Challenge

No value

### Course Special Class Status (CB13)

Course is not a special class.

### Allowed Number of Retakes

0

### Retake Policy Description

Type:|Non-Repeatable Credit

### Grade Options

- Pass/No Pass
- Letter Grade methods

### Course Prior to College Level (CB21)

Not applicable.

Allow Students To Audit Course

## Associated Programs

Course is part of a program (CB24)

### Associated Program

### Award Type

CC Associate in Arts Degree in Anthropology for Transfer

A.A. Degree for Transfer

## Transferability & Gen. Ed. Options

### Request for Transferability (CB05)

Transferable to both UC and CSU

### Transferability Status

Approved

### Cerro Coso General Education Requirements

Area 1.1

### Categories

Natural Science  
Life Sciences  
Social &  
Behavioral  
Sciences Social

### Transferability Status

Approved

### Comparable Course

No Comparable Course defined.

Area 2.1

Approved

**Intersegmental General Education Transfer Curriculum**

Area	Categories	Transferability Status	Comparable Course
Area 4.A	Social and Behavioral Sciences Anthropology / Archeology	Approved	No Comparable Course defined.
Area 5.B	Physical & Biological Sciences Biological Science	Approved	

**CSU General Education Certification**

Area	Categories	Transferability Status	Comparable Course
Area B.2	Scientific Inquiry & Quantitative Reasoning Life Science	Approved	No Comparable Course defined.
Area D.1	Social Sciences Anthropology & Archeology	Approved	

**Units and Hours****Summary**

<b>Minimum Credit Units (CB07)</b>	4	<b>Total Course In-Class (Contact) Hours</b>	72	<b>Total Student Learning Hours</b>	216
<b>Maximum Credit Units (CB06)</b>	4	<b>Total Course Out-of-Class Hours</b>	144	<b>Faculty Load</b>	-

**Credit / Non-Credit Options****Course Credit Status (CB04)**

Credit - Degree Applicable

**Course Non-Credit Category (CB22)**

Credit Course.

**Non-Credit Characteristics**

No value

**Course Classification Code (CB11)**

Credit Course.

**Funding Agency Category (CB23)**

Not Applicable.

 Cooperative Work Experience Education Status (CB10)

 Variable Credit Course
**Weekly Student Hours****Course Student Hours**

	<b>In Class</b>	<b>Out of Class</b>	<b>Course Duration (Weeks)</b>	18
Lecture Hours	4	8	<b>Hours per unit divisor</b>	54
Lab Hours	-	-	<b>Course In-Class (Contact) Hours</b>	
Activity Hours	-	-	Lecture	72
			Lab	-
			Activity	-
			<b>Total</b>	72
			<b>Course Out-Of-Class Hours</b>	
			Lecture	144
			Lab	-
			Activity	-
			<b>Total</b>	144

**Time Commitment Notes for Students**  
 No value

**Faculty Load**  
**Extra Duty:** - **Faculty Load:** -

**Units and Hours - Weekly Specialty Hours**

Activity Name	Type	In Class	Out of Class
No value	No value	No value	No value

## Requisites

### Prerequisite

ENGLC070 - Introductory Composition

Students are expected to read and comprehend a college-level textbook explaining complex anthropological theories. In addition, they must critically analyze scholarly articles for a research paper. They are also required to write 5-10 page papers as well as respond to essay questions on exams. This requires that they write in a clear and organized manner free from errors. The ENGL C070 prerequisite level ensures students have the skills necessary for success in these assignments. This prerequisite is also required for this course to be part of the Honors program.

## Entrance Skills

Skill	Content Review
No value	No value

## Limitations on Enrollment

Limitation	Provide Rationale
No value	No value

## Specifications

### Methods of Instruction

Discussion  
Group Work  
Lecture  
Outside reading  
Presentations (by students)  
Other

### Methods of Instruction Rationale

No value  
No value  
No value  
No value  
No value  
Classroom participation and outside research

## Assignments

Reading - Assigned readings from text book, example: "Read pgs 19 - 39 in your text. Be ready to discuss the key points in Darwin's theory of evolution."

Research paper - 1500 word research paper analyzing the representation of anthropology in the news media. Students are required to compare and contrast scientific reporting and scholarly research (fossil discoveries, genetic research, etc) and discuss the influence of the news media on public perception of anthropological research.

Writing/group assignment - Students write a critical review of a peer-reviewed journal article; this should include an analysis of the methods, research and underlying assumptions. Students then share their critical reviews via oral presentations with their classmates and provide each other with commentary and feedback.

Research paper (honors section) - an additional 2500 word research paper on a chosen topic requiring at least 10 outside references. Scored with a rubric.

### Methods of Evaluation

Tests  
Participation  
Research Paper  
Research Paper

### Methods of Evaluation Rationale

Quizzes and exams - Exams will be given throughout the semester, consisting of multiple choice questions and short answer essay questions scored with a rubric.  
Discussion and participation - Class discussions on the topics and debates that arise from the text and lecture. For instance: "What is the importance of play in primate development and learning?" Students are scored using a rubric based on active participation in the discussion and their use of outside sources, lectures and the text in building their arguments.  
Research paper (honors section) - an additional 2500 word research paper on a chosen topic requiring at least 10 outside references. Scored with a rubric.  
Research paper - A 1500 word essay on a chosen topic requiring at least 6 outside references. Scored with a rubric.

## Equipment

No Value

**Textbooks**

Author	Title	Publisher	Date	ISBN
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	Larsen, C.S.. (2017) Our Origins: Discovering Physical Anthropology, 4th ed, W.W. Norton & Company			
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**Other Instructional Materials**

Description	Author	Citation
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No Value	No Value	No Value
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**Materials Fee**

No

**Learning Outcomes and Objectives****Course Objectives**

Describe the scientific process as a methodology for understanding the natural world.

Define the scope of anthropology and discuss the role of biological anthropology within the discipline.

Identify the main contributors to the development of evolutionary theory.

Explain the basic principles of Mendelian, molecular, and population genetics.

Evaluate how the forces of evolution produce genetic and phenotypic change over time.



Demonstrate an understanding of classification, morphology, and behavior of living primates.

Summarize methods used in interpreting the fossil record, including dating techniques.

Recognize the major groups of hominin fossils and describe alternate phylogenies for human evolution.

## CSLOs

**Explain the key theories and concepts related to the forces of evolution, including mutation, natural selection, genetic drift, and gene flow.** Expected SLO Performance: 70.0

*Default Department*  
Default Department A.A.  
Degree for Transfer

2. Compare and contrast major theoretical perspectives in anthropology. Assessment: Examination through essay, multiple choice, and true/false questions.

5. Identify major trends in cultural evolution using the material cultures of prehistoric and historic humans. Assessment: Examination through essay, multiple choice, and true/false questions.

4. Analyze the place of humanity in nature and describe the methods used to study humans as biological organisms. Assessment: Examination through essay, multiple choice, and true/false questions.

3. Use the scientific method to analyze aspects of the human condition. Assessment: Examination through essay, multiple choice, and true/false questions.

**Identify living primates species and discuss their social organizations, behavior, and language ability.** Expected SLO Performance: 70.0

*Default Department*  
Default Department A.A.  
Degree for Transfer

4. Analyze the place of humanity in nature and describe the methods used to study humans as biological organisms. Assessment: Examination through essay, multiple choice, and true/false questions.

**Describe the sequence of hominin evolution and discuss the fossil evidence.** Expected SLO Performance: 70.0

*Default Department*  
Default Department A.A.  
Degree for Transfer

4. Analyze the place of humanity in nature and describe the methods used to study humans as biological organisms. Assessment: Examination through essay, multiple choice, and true/false questions.

5. Identify major trends in cultural evolution using the material cultures of prehistoric and historic humans. Assessment: Examination through essay, multiple choice, and true/false questions.

**Analyze the influence of the natural environment on humans including the resulting physical and cultural differences** Expected SLO Performance: 70.0

*Default Department*  
Default Department A.A.  
Degree for Transfer

1. Critique selected aspects of human social and cultural life from an anthropological perspective. Assessment: Examination through essay, multiple choice, and true/false questions.

4. Analyze the place of humanity in nature and describe the methods used to study humans as biological organisms. Assessment: Examination through essay, multiple choice, and true/false questions.

*ISLOs*

Students who are completing a program will be able to think critically and creatively and apply reasoning.

Core ISLOs

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**Design an independent study and critically analyze knowledge about human origins.**

Expected SLO Performance: 70.0

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*Default Department*

4. Analyze the place of humanity in nature and describe the methods used to study humans as biological organisms.

Default Department A.A.

Assessment: Examination through essay, multiple choice, and true/false questions.

Degree for Transfer

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## Outline

### Course Outline

1. The Discipline of Anthropology
  - a. Cultural Anthropology
  - b. Physical Anthropology
  - c. Archaeology
  - d. Linguistic Anthropology
2. Research Methods; and Basic Concepts
  - a. The nature of scientific inquiry
  - b. Scientific method
  - c. Field methods
  - d. Dating techniques
3. Evolution; Natural Selection; and the Basic Theory of Inheritance
  - a. Development of evolutionary theory
    - i. James Hutton
    - ii. Charles Lyell
    - iii. George Cuvier
    - iv. Carolus Linnaeus
    - v. Jean Baptiste de Lamarck
  - b. Charles Darwin: Natural Selection and Sexual Selection
  - c. Gregor Mendel and the Laws of Heredity
  - d. Polygenic Inheritance
4. The Cell
  - a. Mitosis
  - b. Meiosis
  - c. Chromosomes
5. DNA
  - a. DNA Replication
  - b. Protein Synthesis
6. Population Genetics
  - a. Natural Selection
  - b. Mutation
  - c. Gene flow
  - d. Genetic drift
7. Human Variation
  - a. Acclimatization
  - b. Physiological Adaptation
  - c. Developmental Adaptation
  - d. Cultural Adaptation
  - e. Race and racism
8. The Skeleton
  - a. Growth and Development
  - b. Major bones and landmarks
9. Introduction to Primates: Origins and Evolution
  - a. Primate characteristics and skeletal morphology
  - b. Fossil evidence
10. Introduction to Living Primates
  - a. Living primate species
  - b. Primate Social organizations and cultural behavior
11. The Evolution of the Hominidae
  - a. Early Hominins
  - b. The Rise of Homo

12. Origins and spread of "anatomically modern humans"

- a. The Multiregional Model
- b. The Out of Africa Population Replacement Model
- c. Peopling of Australia and Oceania
- d. Peopling of the Americas

13. Include research that provides further depth of knowledge in the outlined areas of study.

Cerro Coso College

# Course Outline of Record Report

05/01/2018

## MATHC121H : Elementary Probability and Statistics - Honors

### General Information

Author(s):	<ul style="list-style-type: none"> <li>• Vivian Baker</li> <li>• Rogers, Steven</li> <li>• Swiridoff, Christine</li> </ul>
Subject (CB01):	MATH
Number (CB01):	C121H
Course Title (CB02):	Elementary Probability and Statistics - Honors
Department:	Mathematics
Proposal Start:	Fall 2018
TOP Code (CB03):	(1701.00) Mathematics, General
SAM Priority Code (CB09):	Non-occupational
Distance Education Approved:	Yes
Course Control Number (CB00):	CCC000355488
Curriculum Committee Approval Date:	10/20/2017
Board of Trustees Approval Date:	06/12/2014
External Review Approval Date:	07/24/2014
Course Description:	<p>This course covers elements of descriptive statistics, measures of central tendency, dispersion and presentation of data. Included are concepts of probability, random variables and normally distributed random variables. Sampling error, sampling processes and the distribution of sample means are applied to real life examples. Students will conduct hypothesis testing of means and proportions for one and two populations and linear regression testing using the least squares criterion. Students use descriptive and inferential methods employing linear regression and study one and two way analysis of variance. The honors section provides more content and requires greater intensity and depth of study than the non-honors class; the honors course also requires at least one extra research assignment.</p>
Submission Rationale:	<p>Change to Content</p> <p>Course is being updated to align program applicability with current programs, move current C-ID-defined SLO's to "Objectives," and add locally-determined SLO's.</p>

### Faculty Requirements

<b>Master Discipline Preferred:</b>	<ul style="list-style-type: none"><li>• Mathematics</li></ul>
<b>Alternate Master Discipline Preferred:</b>	<ul style="list-style-type: none"><li>• Mathematics</li></ul>
<b>Bachelors or Associates Discipline Preferred:</b>	No value
<b>Additional Bachelors or Associates Discipline:</b>	No value

## Course Development Options

### Course Basic Skill Status (CB08)

Course is not a basic skills course.

Allow Students to Gain Credit by Exam/Challenge

### Rationale For Credit By Exam/Challenge

No value

### Course Special Class Status (CB13)

Course is not a special class.

### Allowed Number of Retakes

0

### Retake Policy Description

Type:|Non-Repeatable Credit

### Grade Options

- Letter Grade methods
- Pass/No Pass

### Course Prior to College Level (CB21)

Not applicable.

Allow Students To Audit Course

## Associated Programs

Course is part of a program (CB24)

### Associated Program

### Award Type

CC Associate in Arts Degree in Anthropology for Transfer

A.A. Degree for Transfer

CC Kinesiology for Transfer

A.A. Degree for Transfer

CC Associate in Science in Business Administration for Transfer

A.A. Degree for Transfer

CC Liberal Arts: Mathematics & Science

A.A. Degree for Transfer

CC Psychology for Transfer

A.A. Degree for Transfer

Associate in Science Degree In

A.A. Degree for Transfer

Mathematics for Transfer -	
CC Associate in Science Degree in Administration of Justice for Transfer -	A.A. Degree for Transfer
CC Computer Information Systems-	Certificate of Achievement
CC Computer Information Systems	A.S. Degree Major
Cyber Security Technology	A.S. Degree Major
Cyber Security Technician	Certificate of Achievement
CC Information Technology	Certificate of Achievement
Cybersecurity Technology	A.S. Degree Major
CC Information Technology	A.S. Degree Major

<b>Transferability &amp; Gen. Ed. Options</b>			
<b>Request for Transferability (CB05)</b>		<b>Transferability Status</b>	
Transferable to both UC and CSU		Approved	
<b>Cerro Coso General Education Requirements</b>	<b>Categories</b>	<b>Transferability Status</b>	<b>Comparable Course</b>
Area 4.2	Language & Rationality Analytical Thinking	Approved	No Comparable Course defined.



**CSU General Education Certification****Categories****Transferability Status****Comparable Course**

Area B.4

Scientific Inquiry  
& Quantitative  
Reasoning  
Mathematics /  
Quantitative  
Reasoning

Approved

No Comparable Course defined.

**Intersegmental General Education Transfer Curriculum****Categories****Transferability Status****Comparable Course**

Area 2

Mathematical  
Concepts &  
Quantitative  
Reasoning

Approved

No Comparable Course defined.

## Units and Hours

### Summary

<b>Minimum Credit Units (CB07)</b>	5	<b>Total Course In-Class (Contact) Hours</b>	90	<b>Total Student Learning Hours</b>	270
<b>Maximum Credit Units (CB06)</b>	5	<b>Total Course Out-of-Class Hours</b>	180	<b>Faculty Load</b>	-

### Credit / Non-Credit Options

**Course Credit Status (CB04)**

Credit - Degree Applicable

**Course Non-Credit Category (CB22)**

Credit Course.

**Non-Credit Characteristics**

No value

**Course Classification Code (CB11)**

Credit Course.

**Funding Agency Category (CB23)**

Not Applicable.

 Cooperative Work Experience Education Status (CB10)

 Variable Credit Course

### Weekly Student Hours

	<b>In Class</b>	<b>Out of Class</b>
Lecture Hours	5	10
Lab Hours	-	-
Activity Hours	-	-

### Course Student Hours

<b>Course Duration (Weeks)</b>	18
<b>Hours per unit divisor</b>	-
<b>Course In-Class (Contact) Hours</b>	
Lecture	-
Lab	-
Activity	-
<b>Total</b>	90
<b>Course Out-Of-Class Hours</b>	
Lecture	-
Lab	-
Activity	-
<b>Total</b>	180

### Time Commitment Notes for Students

No value

## Faculty Load

Extra Duty: -

Faculty Load: -

## Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No value	No value	No value	No value

## Requisites

### Prerequisite

MATHC055 - Intermediate Algebra

In Math C055 students are expected to consistently perform signed number operations correctly; demonstrate proficiency with operations of algebraic fractions; use the rules of exponents and radicals to simplify expressions and solve equations; recognize the difference between functions and non-functions; graph a line and write the equation of a line; recognize and graph at least one quadratic – parabola, circle, ellipse, or hyperbola; solve a linear system of equations by at least two of the following methods: graphing, substitution, addition elimination, Cramer’s rule; solve quadratic equations by at least two of the following methods: factoring, completing the square, quadratic formula, graphing calculator; graph exponential and logarithmic functions; use the properties of exponential and logarithmic functions to solve equations; set up and solve word problems related to the skills above. Students successfully demonstrating these Math C055 skills will be prepared for Math C121H.

### AND

#### Prerequisite

MATHC053 - Preparation for Statistics

This is an accelerated statistics preparation course for non-STEM majors. Topics include linear, quadratic, rational, exponential, and logarithmic functions and equations; systems of linear equations and inequalities; and data collection, data summaries, and descriptive statistics. The emphasis is on statistical applications of the algebraic material.

### AND

#### Prerequisite

ENGLC070 - Introductory Composition

In this course which prepares students to take university-level classes, students analyze and respond to college-level readings, compose expository and argumentative essays for a variety of rhetorical situations, incorporate outside sources into their writing using proper documentation techniques, and revise for coherence, unity, and development. Students write four to five text-based expository essays (total: 3,500 words).

## Entrance Skills

Skill	Content Review
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No value

No value

## Limitations on Enrollment

Limitation	Provide Rationale
Honors program	Acceptance for the honors program or eligibility for this honors course as determined in consultation with the instructor.
Prerequisite - Math	Math C055 OR C053

## Specifications

Methods of Instruction	Methods of Instruction Rationale
Case Study	No value
Computational Work	No value
Discussion	No value
Lecture	No value
Outside reading	No value
Presentations (by students)	No value
Problem Solving	No value
Project-based learning	No value
Written work	No value

## Assignments

A. Daily homework assignments, Students work mathematics problems. For example, given summary statistics and a significance level, students perform a hypothesis test to test the claim that more than 75% of adults know what Twitter is. B. Online Course Management System, Example: Students determine a Probability Value for a right-tailed hypothesis test about a claim of a population mean using StatCrunch or StatDisk software. C. Project, Students conduct a survey, experiment or observational study outside of class and give a presentation of the results to the group. D. Term paper dealing with an approved statistical topic.

Methods of Evaluation	Methods of Evaluation Rationale
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Tests	<p>B. Weekly Quizzes Weekly quizzes covering the lecture material, homework, and in-class assignments assess the student's understanding.</p> <p>C. Chapter Exams Exams cover lecture material, homework, and in-class assignments and assess the student's understanding.</p>
Project	<p>D. Projects Student projects graded using a rubric scale Example: Read additional material in Statistics course textbook, Triola (2014) Elementary Statistics 12 ed. covering topics of Statistical Process Control and Nonparametric Tests. The student will use this additional knowledge as well as the knowledge gained from the regular Statistics course to conduct research at a local wildlife monitoring and management project. This research will include the collection of data in the field with careful consideration of sampling methods and analysis methods used. The student prepares a report which includes the presentation of the collected data in the form of tables, charts, and graphs along with an analysis and interpretation of results. The student discusses the application of Statistical methods used in sampling and analyzing the data in their project write-up. There will also be a short presentation of the project in class.</p>
Participation	<p>A. Daily in-class assignments Example: Students work statistics problems assigned from the text and from hand- outs to reinforce concepts and skills discussed in lecture.</p>
Research Paper	<p>E. HTerm Paper The student will write a research paper of 2,500 words on a subject mutually agreed upon by the student and instructor. The paper will reflect intensified study beyond the scope of the non-honors class. The paper will use the APA format.</p> <p>Example: The student uses additional knowledge acquired from the honors section as well as the knowledge gained from the regular Statistics course to research a local manufacturing company with regards to statistical process control. This research will include interviews and possible tour and observation of Statistical Process Control "in the field." The student will write a paper analyzing and commenting on the manufacturing process with emphasis on the application of Statistical methods on Quality Control in manufacturing; the paper will follow the guidelines for writing a scientific paper. There will also be a short presentation of the paper in class.</p>

### Equipment

No Value

### Textbooks

Author	Title	Publisher	Date	ISBN
Triola	Elementary Statistics	Pearson Education	2018	

### Other Instructional Materials

Description	Author	Citation
Software: Pearson Education, Inc. MyStatLab Website, 4th ed. -StatCrunch and StatDisk calculators		Elementary Probability and Statistics - Honors
<b>Materials Fee</b>  No		

## Learning Outcomes and Objectives

### Course Objectives

Interpret data displayed in tables and in graphs.

Apply concepts of sample space and probability.

Calculate measures of central tendency and variation for a given data set.

Identify the standard methods of obtaining data and identify advantages and disadvantages of each.

Calculate the mean and variance of a discrete distribution.

Calculate probabilities using normal and student t-distribution.

Distinguish the difference between sample and population distributions and analyze the role played by the Central Limit Theorem.

Construct and interpret confidence intervals.

Determine and interpret levels of statistical significance including p-values.

Interpret the output of a technology-based statistical analysis.

Identify the basic concept of hypothesis testing including Type I and II errors.

Formulate hypothesis tests involving samples from one and two populations.

Select the appropriate technique for testing a hypothesis and interpret the result.

Use linear regression and ANOVA analysis for estimation and inference, and interpret the associated statistics.

Use appropriate statistical techniques to analyze and interpret applications based on data from disciplines including business, social sciences, psychology, life science, health science, and education.

## CSLOs

**1. Choose and apply appropriate inferential analyses to real situations in order to draw conclusions about a population or several populations.** Expected SLO Performance: 70.0

*Default Department*  
Default Department A.A.  
Degree for Transfer

3. Use the scientific method to analyze aspects of the human condition. Assessment: Examination through essay, multiple choice, and true/false questions.

**2. Compute probabilities using the basic probability laws based on the binomial or normal distribution.** Expected SLO Performance: 70.0

*Default Department*  
Default Department A.A.  
Degree for Transfer

3. Use the scientific method to analyze aspects of the human condition. Assessment: Examination through essay, multiple choice, and true/false questions.

**3. Construct and interpret hypothesis tests and confidence intervals.** Expected SLO Performance: 70.0

*Default Department*  
Default Department A.A.  
Degree for Transfer

3. Use the scientific method to analyze aspects of the human condition. Assessment: Examination through essay, multiple choice, and true/false questions.

**4. Analyze quantitative data verbally, graphically, symbolically, and numerically.** Expected SLO Performance: 70.0

*Default Department*  
Default Department A.A.  
Degree for Transfer

3. Use the scientific method to analyze aspects of the human condition. Assessment: Examination through essay, multiple choice, and true/false questions.

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**5. Analyze the importance of inferential statistics to the evolution of twentieth and twenty-first centuries thought by writing a term paper or investigate a real-life application using a statistical software package and present the results in the form of a written project and oral presentation. This outcome is unique to the honors section.**

Expected SLO Performance: 70.0

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*Default Department*  
Default Department A.A.  
Degree for Transfer

3. Use the scientific method to analyze aspects of the human condition. Assessment: Examination through essay, multiple choice, and true/false questions.

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## Outline

### Course Outline

The Mathematics Department has adopted the following best practices for teaching this course: offering or awarding extra-credit is forbidden, the allowance of multiple attempts at exams is forbidden, and an approved on-site proctor for online course exams is required.

#### A. Summarizing Data Graphically and Numerically:

- i. Levels of measurement
- ii. Characteristics of data and types of graphs
- iii. Measures of relative position and boxplots

#### B. Descriptive Statistics: Measurement, Measures of Central Tendency, and Variation:

- i. mean and standard deviation
- ii. Population vs. sample statistics

#### C. Probability:

- i. Sample spaces and probability;
- ii. Relative frequency
- iii. Conditional Probability and Independence
- iv. Graphical and computational approaches

#### D. Random Variables and Expected Value;

- i. Use mean and standard deviation for critical thinking.

#### E. Sampling and Sampling Distributions;

- i. Biased and unbiased estimators

#### F. Discrete Distributions:

- i. Binomial Distribution
- ii. Poisson Distribution

#### G. Continuous Distributions:

- i. Uniform Distribution
- ii. Normal Distribution

#### H. The Central Limit Theorem:

- i. Assessing Normality
- ii. Normal as an approximation to Binomial

#### I. Estimation and Confidence Intervals:

- i. Proportions
- ii Means
- iii Standard deviation or variance

#### J. Hypothesis Testing and Inference, Including t-tests for One and Two Populations, and Chi-square test:

- i. Example: Test the claim that the mean pulse rate of adult females in a data set is less than 75 bpm.
- ii. Z-test

- iii. T-test
- iv. Chi-Square Distribution
- v. Power of a Hypothesis Test
- vi. Two populations
  - a. means to include both independent samples and matched pairs
  - b. two population proportions
  - c. two population variances

K. Correlation and Regression Lines:

- i. Example: From a set of Consumer Price Index/ subway data, determine if there is a linear correlation.
- ii. Coefficient of determination

L. Analysis of Variance (ANOVA);

- i. Introduction of Fisher's F-distribution
- ii. One-way ANOVA
- iii. Two-way ANOVA

M. Applications Using Data from at Least Four of the Following Disciplines: Business, Economics, Social Science, Psychology, Political Science, Administration of Justice, Life Science, Physical Science, Health Science, Information Technology, and Education;

N. Technology-Based Statistical Analysis;

- i. Complete a statistical analysis using StatCrunch, Minitab, Excel or a graphing calculator.

O. Assignments and Projects Specific to the Honors Section:

- i. Discussion of current media releases dealing with statistical data
- ii. Treatment of more advanced statistical tests and their applicability
- iii. Demonstrations of several statistical software packages such as Excel, StatCrunch or Minitab
- iv. Individual or collaborative student projects exploring a particular facet of the subject with a report of results to the group or a comprehensive research paper addressing the application of inferential statistics to a topic or issue of the twentieth century or later