

Adopted: January 22, 2019

**ACADEMIC SENATE
Of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, CA**

AS-860-19

RESOLUTION ON SENIOR PROJECT POLICY

Impact on Existing Policy:¹ Updates existing policy to accommodate a variety of discipline-specific practices and encompasses the University mission. Supersedes resolutions AS-562-01, AS-594-03, AS-683-09.

Background Statement: Configuring capstone experiences that support student learning goals, align with programmatic and University objectives, and account for resources is a significant, yet complex task. The aim of this resolution is to establish an updated, comprehensive senior project policy that accommodates a variety of discipline-specific practices and encompasses the University mission.

WHEREAS, Specific guidelines for senior projects, as outlined in AS-562-01, do not adequately represent existing practices; and

WHEREAS, Guidelines and archiving requirements for senior projects are currently spread among three senate resolutions: AS-562-01, AS-594-03, and AS-683-09; and

WHEREAS, The attached policy incorporates significant elements of all three resolutions; and

WHEREAS, The current designation for senior project courses is non-standardized; therefore, be it

RESOLVED: That the attached policy supersedes AS-562-01, AS-594-03, and AS-683-09; and be it further

RESOLVED: That the university adopt a standard designation for senior project courses across the curriculum, either by returning to the former practice wherein the second course digit of 6 or 7 indicates a senior project course or by requiring that every senior project course has "Senior Project" in its title.

Proposed by: Senior Project Senate Task Force

Dawn Janke, Task Force Chair

Date: September 27, 2018

ⁱ (1) Describe how this resolution impacts existing policy on educational matters that affect the faculty. Examples include curricula, academic personnel policies, and academic standards.

(2) Indicate if this resolution supersedes or rescinds current resolutions.

(3) If there is no impact on existing policy, please indicate NONE.

Senior Project Policy

The project method has served as the foundation of Cal Poly's curriculum since the institution's inception, and the senior project, established as an integral part of the curriculum in 1941, functions as the culmination of a student's project-based learning experiences.¹ To this day, the university remains steadfast in its commitment to affording students an opportunity to engage in and benefit from an integrative capstone learning experience through completion of a senior project.

All Cal Poly undergraduate students shall² complete a senior project as part of their baccalaureate degree program requirements.

Definition. At Cal Poly, a capstone experience is a high-impact educational practice³ in which students (a) integrate and evaluate the knowledge and skills gained in both the General Education (GE) and major curricula and (b) demonstrate career or postgraduate readiness.

As a bridge from college to career/postgraduate success, the senior project at Cal Poly is a capstone experience with achievable outcomes that culminates in a self-directed final production or product carried out under faculty direction. Senior projects analyze, evaluate, and synthesize a student's general and discipline-specific educational experiences; relate to a student's field of study, future employment, and/or postgraduate scholastic goals; and include an element of critical, self-reflectiveness to facilitate student development and promote the metacognitive awareness that leads to lifelong learning.

Expected Outcomes. While major programs of study shall be responsible for designing specific senior project learning outcomes, all senior projects at Cal Poly should provide an opportunity for holistic, competency-based assessment⁴ that demonstrates a strong foundation in general and discipline-specific knowledge as well as an advanced proficiency in the core competencies of critical thinking, written and oral communication, information literacy, and quantitative reasoning.

Senior projects shall broadly address program learning objectives, which should be well aligned with one or more college and [university learning objective](#), including the ability to:

- Think critically and creatively;
- Communicate effectively;
- Demonstrate expertise in a scholarly discipline and understand that discipline in relation to the larger world of the arts, sciences, and technology;

¹ See Helle, Tynjala, & Olkinuora (2006) for a comprehensive definition of the project method and project-based learning.

² For the purposes of this policy, the term "shall" indicates required practices, whereas "should" represents nonmandatory, recommended practices.

³ For an explanation of the capstone experience as a high-impact practice, see Kuh, G. (2008). *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter*.

⁴ While Cal Poly does not follow the competency-based model of education, competency-based assessment practices are effective for senior projects because such practices measure performance on a variety of knowledge, skills, and abilities needed in a specific discipline or future endeavor, such as a career or postgraduate degree. Competency-based assessment protocols invite programs to design assessment methods that ensure graduates are career- or postgraduate-ready by engaging with industry experts to design relevant outcomes. See Bral & Cunningham(2016), Klein Collins (2012, 2013), Klein-Collins, Ikanberry, & Kuh (2014), and Larsen McClarty & Gaertner (2015).

- Work productively as individuals and in groups;
- Use their knowledge and skills to make a positive contribution to society;
- Make reasoned decisions based on an understanding of ethics, a respect for diversity, and an awareness of issues related to sustainability;
- Engage in lifelong learning.

Forms & Examples. Senior projects may be research-, project-, and/or portfolio-based; individually supervised or course-based; independently completed or team-based; discipline-specific and/or interdisciplinary. They may take forms including, but not limited to, the following:

- an experiment;
- a self-guided study;
- a student-generated research project;
- participation in a faculty-generated research project;
- engagement in an industry-driven project;
- a report based on a prior or concurrent co-op/internship or service learning experience;
- a design or construction project;
- a portfolio of work documenting the results of creative practices; and/or
- a public presentation or performance.

REQUIREMENTS

Specific senior project requirements shall be determined at the department level; yet, all senior projects and senior project policies shall adhere to the following requirements.

Senior projects shall

- Commence when, or after, a student has earned senior standing, though completion of preparatory courses and/or research may precede senior standing;
- Serve as a bridge from the college experience to professional/postgraduate readiness;
- Include clearly defined student learning outcomes that are aligned with program learning objectives;
- Have faculty oversight with scheduled meetings for which specific timelines/outcomes are defined;
- Include a formal proposal and/or statement of intent to be submitted to the faculty advisor;
- Involve inquiry, analysis, evaluation, and creation;⁵
- Demonstrate core competencies in critical thinking, written and/or oral communication, information literacy,⁶ and quantitative and/or qualitative reasoning in line with the University's WASC accreditation criteria;
- Require a process/production and culminate in a final product as defined at the program level;

⁵ Because senior projects shall demonstrate mastery as appropriate for an undergraduate student, senior projects shall incorporate higher-level cognitive processes as identified in Bloom's revised taxonomy (see Airasian, Cruikshank, Mayer, Pintrich, Raths, & Wittrock, 2001).

⁶ Information literacy is a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association, 1989).

- Include an explicit element of self-reflection (e.g. dialogue with a faculty advisor, a written reflection as part of the deliverable, an oral reflection during a presentation, a self-evaluation form, etc.);
- Adhere to discipline-specific norms of academic integrity and ethical practices;
- Be individually and formally assessed;
- Include a minimum count of 3 units, or 90 hours of work,⁷ with no maximum;
- Take no more than three quarters to complete;
- Be assigned grades consistent with Cal Poly's [policy on grading](#).⁸

Note: Senior projects shall neither consist solely of a co-op/internship experience nor solely of a test/exam of any kind, and senior projects shall not be unsupervised.

Departments shall

- Make senior project policies and practices publicly accessible in both the catalog and on the department website;
- Instruct students, when applicable, of the need to comply with the university's intellectual property policy; policy for the use of human subjects in research; procedures and guidelines for human subjects research; and regulations, policies, and standards for the care and use of animal subjects in research;
- Discourage costly senior projects and/or ensure students are aware that they are responsible for identifying costs and potential funding sources prior to initiation of a project;
- Set standards for group-completed senior projects, ensuring that the number of students participating in a group senior project is not so large as to unduly limit individual experience or responsibility and initiative;
- Ensure the scope of a project is robust enough for students to integrate and apply general and discipline-specific knowledge yet not overly ambitious thereby resulting in delayed time to degree;
- Review senior project processes and assess senior project artifacts at least once within a single cycle of program/accreditation review;
- Determine a process for archiving senior projects, whether at the department- or college-level and/or in collaboration with Kennedy Library.⁹

⁷ With the definition of a credit hour as 30 hours of work, as stated in [Definition of a Credit Hour](#).

⁸ A grade of RP (report in progress) may be appropriate for the first quarter of a two-quarter senior project or the first and second quarters of a three-quarter project. Similarly, an I (incomplete) grade may be appropriate for a project that remains incomplete at the end of the prescribed period, although instructors are encouraged to consider the positive impact that awarding a regular letter grade may have on a student's progress to degree completion.

⁹ Policies and procedures governing submissions to Kennedy Library's institutional repository are based on University policies pursuant to the Family Educational Rights and Privacy Act (FERPA), Intellectual Property Rights, and CSU accessibility requirements. Senior projects submitted to the institutional repository hosted by Kennedy Library become part of university's scholarly record.

RECOMMENDATIONS

While departments shall establish senior project practices within the context of their specific discipline, curriculum, and pedagogy, they should incorporate multiple pathways to senior project completion and adopt any or all of the following suggestions, which draw upon best practices in capstone experiences.

Senior Projects should

- Be student-directed;
- Begin in inquiry;
- Synthesize and apply prior learning in both GE and the major;
- Involve individualized, independent learning opportunities;
- Include a written element of at least 1,000 words;
- Offer students an opportunity to create new knowledge, their learning legacy;
- Help students develop their professional and leadership skills.

Departments should

- Consider hosting informational meetings for students prior to or concurrent with senior project course enrollment;
- Scaffold the curriculum toward the senior project capstone experience by providing students with the opportunities to build their knowledge, skills, and experiences towards the level of accomplishment required by the senior project;
- Ensure all senior projects within a program challenge each student equally;
- Set the enrollment capacity for course-based senior project programs at 30 or fewer students in order to facilitate more direct interaction between a faculty member and an individual or team;
- Offer interdisciplinary senior project opportunities within a department or in partnership with other majors;
- Encourage students to engage in ethical practices and embrace principles of diversity, inclusion, and equity when completing their senior projects;
- Engage in external review of senior project artifacts by alumni, professionals, and other disciplinary experts.

For additional support, departments should consider

- Collaborating with Kennedy Library to determine an effective archiving practice for all types of scholarly outputs including traditional, non-traditional, and non-digital native born research products;
- Contacting the CTLT about workshops to help faculty develop senior project mentoring practices;
- Reviewing the set of prompts available on the APP website to learn more about ways to design effective senior project policies and practices; and/or
- Referencing some of the sources listed on the attached bibliography before developing/re-designing senior project programs.

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