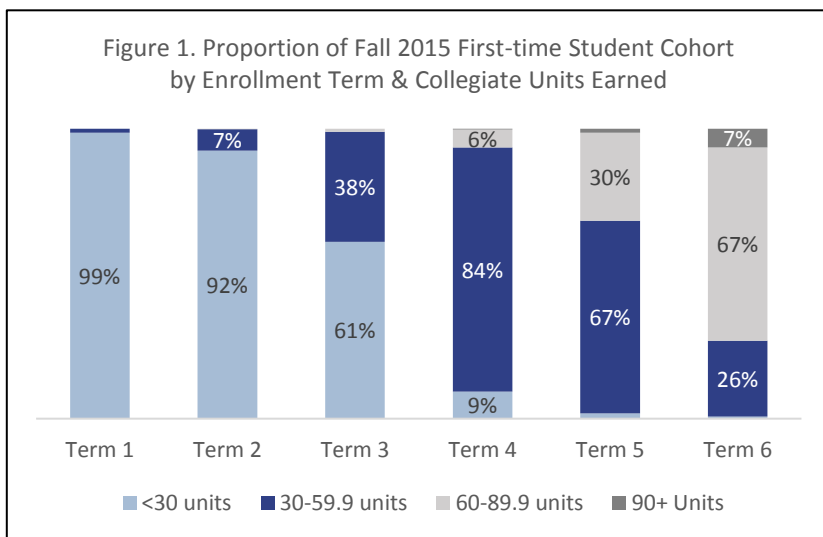


Unit Load & Academic Success at California State University San Marcos

Prepared jointly by the offices of Undergraduate Studies and Institutional Planning & Analysis

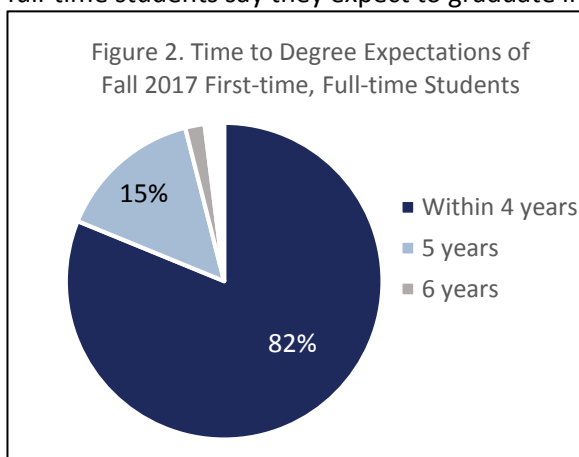
INTRODUCTION

In Fall 2015, as part of an inquiry into sophomore success, the [Graduation Initiative Steering Committee](#) (GISC) at California State University San Marcos (CSUSM) discovered that roughly three out of five first-time college students begin their second year having earned fewer than 30 college credits (Figure 1). Due to past administrative and budgetary restrictions and campus culture, the “norm” for CSUSM had



been 12 units per term for some time. Only 13% of new first-time students attempted 15 or more units (a “full load”) in Fall 2015, and around one quarter of undergraduates attempted a full load in any given term. Even students who arrive at CSUSM fully proficient in Math and English and ready to take college-level courses were more likely to opt for initial unit loads of 12 or 13 units.

Smaller unit loads pose a significant obstacle to “timely” graduation, as students must earn an average of 30 units annually in order to graduate with 120 units (the minimum units required for a CSUSM bachelor’s degree) within four years. Although over 80% of entering first-time, full-time students say they expect to graduate in four years or less (Figure 2; [Fall 2017 CIRP Freshman Survey](#)), only 15% achieve that goal. In alignment with the CSU’s Graduation Initiative, by 2025 CSUSM aims to graduate 30% of its first-time, full-time class within four years. Though six-year graduation rates have been rising slowly and steadily for this population (most recently 53%), our four-year graduation rate has remained relatively stagnant. Unless students begin to attempt more units, earlier, it is unlikely that they will meet their time-to-degree goals or that CSUSM will meet its 2025 goal.



BACKGROUND & LITERATURE REVIEW

In an effort to enhance campus awareness and understanding of the relationship between unit load and student academic success, GISC began to consult with campus stakeholders and collect internal and external data. The committee learned that several institutions nationwide have embarked on campaigns to encourage higher unit loads and shorten time to degree (e.g., 15 to Finish, Freshman 15) and

conducted accompanying institutional research to inform these efforts. The organization [Complete College America](#) has also devoted considerable resources to the 15 to Finish model, including articles, promotional materials, and an implementation guide. These campaigns emphasize long-term cost savings for the student, on-time graduation, improved grades, the ability to enter the workforce sooner, and additional college graduates for the local region. The institutions we studied also reported that students taking a full load generally persisted at higher rates, earned higher GPAs, and had higher rates of credit completion on average. In some cases, a 12-12-6 model - in which students supplement 12 units in Fall and Spring with 6 units in Summer - was encouraged as an alternative that would still result in a cumulative 30 units per year.

There is some evidence in the literature to suggest that starting with a full load provides a number of benefits to students. Studies have found that a full course load to be associated with general academic achievement in college (Martin, Wilson, Liem, & Ginns, 2013), increased grade point average (GPA) (Szafran, 2001), and retention after one year and eventual degree completion (Adelman, 2006; Attewell, Heil, & Reisel, 2012; Attewell & Monaghan, 2016; Complete College America, 2013). This impact has been shown for diverse groups of students, with effects remaining significant even after controlling for students' previous academic records, gender, race and ethnicity, and socioeconomic status (Adelman, 2006; Attewell & Monaghan, 2016; Complete College America, 2013; Szafran, 2001). Taking 15 units in the first term may also have financial benefits for students: Belfield, Jenkins, and Lahr (2016) found that students consistently taking a full load pay less per credit and end up with a much less expensive degree. Research also demonstrates that a student's first-term unit load influences their behavior in subsequent terms, with students generally continuing to take similar unit loads (Adelman, 2006; Attewell et al., 2012; DUBY & Schartman, 1997).

Authors of these studies provide several explanations for the beneficial effects of a full load in the first term. Taking a full set of classes allows students to become immediately integrated into the academic community of the college (DUBY & Schartman, 1997; Stage, 1989), which, along with social integration, is one of the keys to Tinto's (1975, 1993) foundational theory of student departure. A few authors (Adelman, 2006; Attewell et al., 2012) suggest the influence of *academic momentum*, explaining how a student who successfully completes a full first term demonstrates to herself early intellectual competence and may feel a strong sense of accomplishment, both of which lead to an increase in academic self-efficacy (Attewell et al., 2012), a strong predictor of first-year student success (Chemers, Hu, & Garcia, 2001). An early full load may also force students to develop time management skills and help them understand what it will take to be academically successful, contributing to a sense of academic identity (Szafran, 2001). On the other hand, a recommendation that a student take a lighter load could be perceived as a judgment about that student's ability and could negatively influence the student's academic self-concept (DUBY & Schartman, 1997).

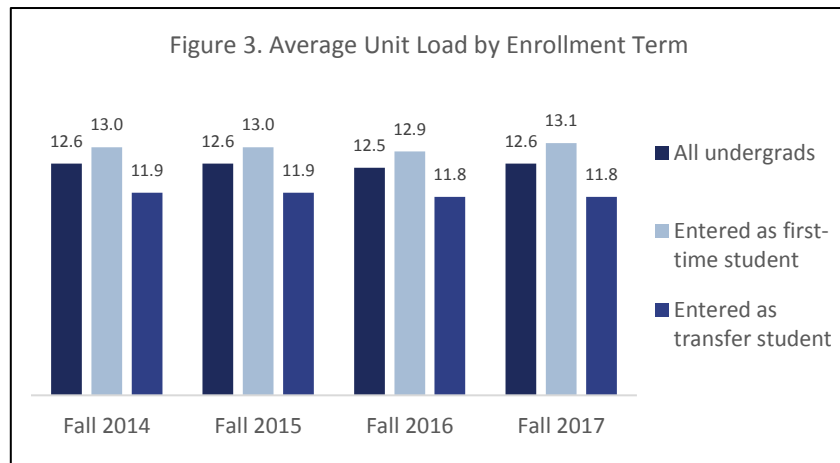
The research does not suggest that all students would automatically benefit from a full course load. Attewell and Monaghan (2016) did not find a beneficial effect for students working 30 or more hours. One study of "extenders," or students who ultimately graduated but at slower rates, found that most did so as a result of finances, with many students taking more time for work and family (Volkwein & Lorang, 1996). Szafran (2001) found clear evidence that a higher credit load had a positive influence on GPA but also found that course difficulty was a factor; that is, students taking more credits were generally better off, unless the courses they were taking were especially challenging (as indicated by proportions of prior students earning D or F grades). In addition, the University of Hawai'i at Manoa

found that a full load did not have a positive impact on students entering with the lowest levels of academic preparation (lowest quartile of SAT, ACT, high school GPA, and high school rank).

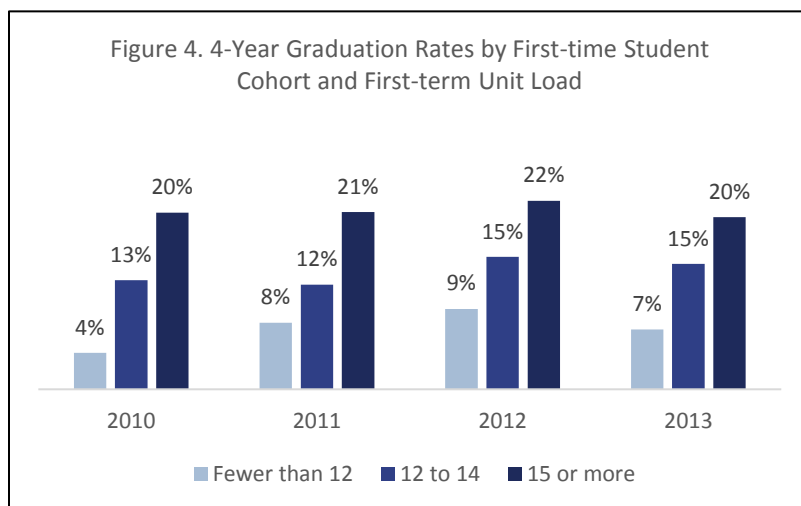
Overall, however, much of the current research suggests that experiences in the first year and especially in the first term set patterns of behavior that students continue throughout their college careers (Kinzie, Gonyea, Shoup, & Kuh, 2008). Recommending students take a full course load in their first term is consistent with four of Chickering and Gamson’s (1987, 1999) seven principles for good practice in undergraduate education: having students take more courses encourages contact between students and faculty, encourages cooperation between and among students, teaches students to maximize time on task, and clearly communicates high expectations. Giving students high expectations while backing them up with academic and social support is key to producing a student-centered culture (Kinzie & Kuh, 2007).

CSUSM DATA & ANALYSES

Undergraduate students at CSUSM attempt around 12.6 units per term, on average, with those who entered as first-time students generally taking larger unit loads than those who transferred to CSUSM from another institution (Figure 3). Average unit loads vary somewhat by



college due to individual program roadmaps and the use of 2- and 4-unit courses; for example, in some cases, a student taking five courses is enrolled in only 14 units. Students in Science and Math typically attempt higher unit loads, while students in the College of Education, Health & Human Services tend to attempt fewer units. Surprisingly, new first-time students requiring proficiency work in math or English are actually more likely to attempt a full load, although some of these units do not count for college credit; this will change with the CSU’s sunsetting of remedial education in Fall 2018. Younger students are also more likely to attempt a full load.

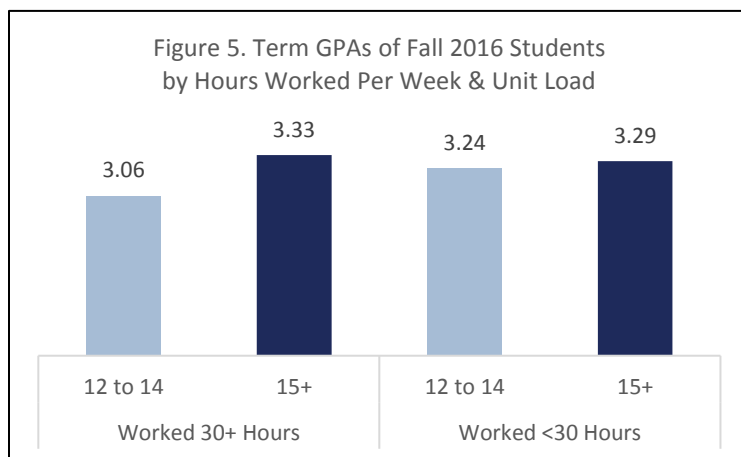


Exploratory research conducted by the Office of Undergraduate Studies using CIRP Freshman Survey data and institutional data from the Fall 2008-Fall 2014 entering cohorts found that, historically, students initially attempting a full load scored higher on the constructs *Habits of Mind*, *Academic Self-Concept*, and *Social Self-Concept*, suggesting these students have slightly different academic orientations than their peers, which might predispose them to take on a

greater academic workload. However, attempted unit load did not appear to vary significantly by high school GPA, suggesting that prior academic performance is not a sufficient determinant of first-term unit load decisions. In terms of academic success outcomes, this inquiry showed that students who initially attempt 15 or more units earn 29.6 units, on average, in the first year, compared with 26.2 units for students attempting less than a full load. This same analysis did not find a statistically significant difference in first-year retention between students attempting 15 or more units and those attempting 12 to 14; however, institutional data demonstrate that students who initially attempt a full load do tend to graduate within four years at higher rates than their peers (Figure 4).

Desiring to learn more about students' decisions with regard to unit load, the Office of Undergraduate Studies and Institutional Planning & Analysis conducted a survey of undergraduate students in Spring 2016, asking them about the factors that influenced their unit load decisions. By far, the chief concern of students enrolled in fewer than 15 units was managing academic workload. Advice from advisors, counselors, family, and friends played a role in students' first-term decisions, while hours spent working off-campus or caring for family members were more important for current-term decisions. Students who enrolled in 15 or more units were primarily focused on completing degree requirements more quickly in order to graduate sooner. Regardless of unit load, students cited issues with course availability, though most students reported being satisfied or very satisfied with current unit loads; only 13% indicated they were dissatisfied or very dissatisfied. Open-ended comments revealed that these students were mostly frustrated with issues of course availability, inconsistent or unrealistic academic expectations, and balancing other commitments and stressors such as financial need.

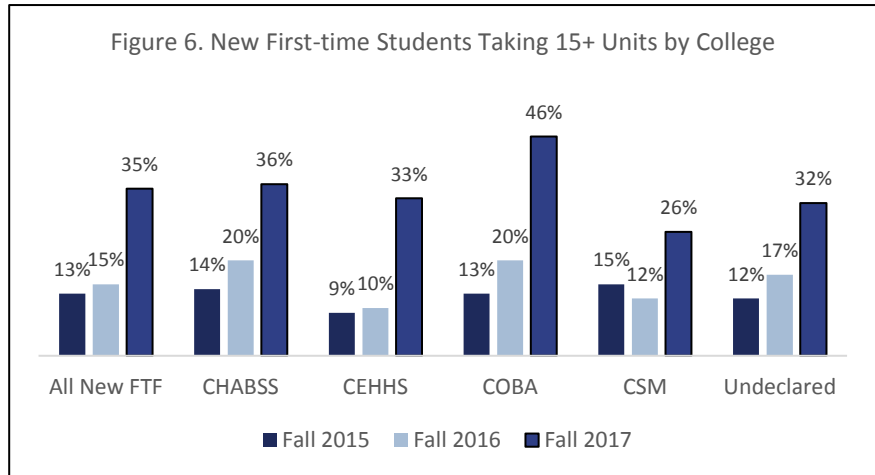
In Fall 2016, the Office of Undergraduate Studies and Institutional Planning & Analysis launched a Unit Load Study to further explore the relationships among unit load, student characteristics, personal and professional commitments, and academic performance at CSUSM. Pulling from the literature and from studies conducted at other universities, we especially wanted to examine the impacts of unit load for students with the lowest levels of academic preparation and those who work 30 or more hours per week (approximately 20% of CSUSM undergraduates). To supplement our institutional data, we conducted a short survey regarding students' time commitments outside the classroom in order to determine their average hours working and committed (working or caring for family) per week. Most analyses did not require the estimates of hours working or committed and used a full sample of all undergraduate students in Fall 2016, while the handful of analyses using the hours worked data used a smaller sample of survey respondents.



Overall, we found that students who took 15 or more units in Fall 2016 earned higher GPAs than students who took 12 to 14 units. Contradicting the findings of Attewell & Monaghan (2016), survey respondents who reported being employed or committed 30 or more hours and who took 15 or more units earned higher GPAs, on average, than those who took 12 to 14 units (Figure 5). There was no statistically significant difference in

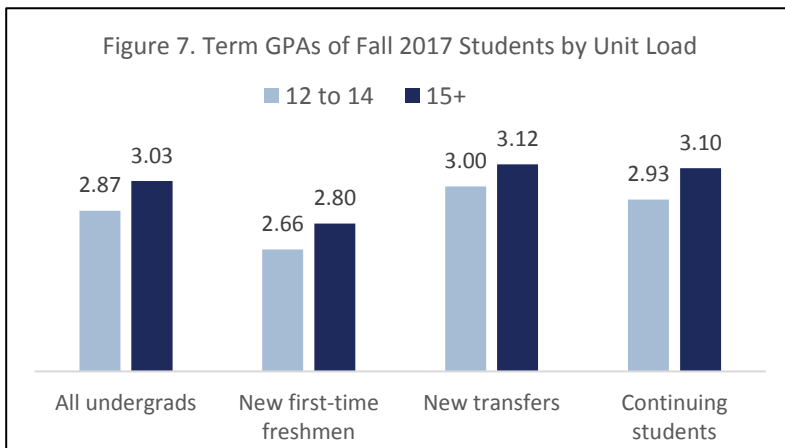
term GPA for new first-time students or new transfer students based on unit load (15 or more vs. 12 to 14), even in the lowest quartiles of prior academic performance. However, continuing students who attempted 15 or more units earned a significantly higher GPA than similar students who attempted 12 to 14, even for those in the lowest quartile of prior CSUSM GPA. Demographic breakdowns did not differ from the larger groupings in most cases, but did differ in the case of underrepresented minority (URM) and new first-time, first-generation students: new first-time students who took 15 or more units and who were URM and/or first-generation students earned a statistically significantly lower GPA, as did new first-time, first-generation students in the lowest quartile of CSUSM Eligibility Index score, a composite of high school GPA and standardized test scores.

With the adoption of tools such as [Degree Planner](#) (CSUSM’s branding of the PeopleSoft Campus Solutions modification *Smart Planner*), partial implementation of block-enrollment for new first-time students, and increased campus awareness around issues of unit load and time to degree, we saw a notable increase in Fall 2017 unit load, particularly for new



first-time students (Figure 6). In Fall 2016, only 332 new first-time students (15%) attempted 15 or more units, while in Fall 2017, 868 (35%) opted for a full unit load. Accordingly, the average unit load for first-time students rose from 12.6 to 13.3. This substantially increased the sample sizes for our Fall 2017 Unit Load Study, and seems to have diversified the population taking 15 or more units as well. New Fall 2017 first-time students attempting 15 or more units were more likely than in the past to be fully proficient in English and math, belong to an underrepresented minority group, and be the first in their family to pursue a bachelor’s degree. In addition, a greater proportion of survey respondents who were employed 30 or more hours attempted a full load (26% in Fall 2017 vs. 19% in Fall 2016).

In Fall 2017, students attempting a full load of 15 units achieved higher average GPAs than those



attempting 12 to 14 units, regardless of new or continuing student status, and this difference was statistically significant (Figure 8). In contrast to Fall 2016, there was no statistically significant difference in average term GPAs for new first-time underrepresented minority students, first-generation students, or students in the lowest quartile of high school GPA by unit load groupings. Lastly, survey

respondents working 30 or more hours per week again earned higher average term GPAs when attempting a full load, although the difference was not statistically significant.

Informed by these analyses, CSUSM's Unit Load Steering Committee is endeavoring to increase and clarify communications regarding time to degree and academic workload to better assist students in making informed decisions on the path to graduation. Spring 2018 brought another increase in the proportion of undergraduates attempting a full load, and this trend will likely continue as Degree Planner adoption rises and time to degree messaging is refined. The campus will continue to monitor the effects of these changes through ongoing exploratory analysis and repetition of the Unit Load Study.

References

- Adelman, C. (2006). *The Toolbox Revisited: Paths to Degree Completion From High School Through College*. US Department of Education. Washington, DC. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.108.495>
- Attewell, P., Heil, S., & Reisel, L. (2012). What Is Academic Momentum? And Does It Matter? *Educational Evaluation and Policy Analysis*, 34(1), 27–44.
- Attewell, P., & Monaghan, D. (2016). How Many Credits Should an Undergraduate Take? *Research in Higher Education*, 57(6), 682–713. <http://doi.org/10.1007/s11162-015-9401-z>
- Belfield, C., Jenkins, D., & Lahr, H. (2016). *Momentum: The Academic and Economic Value of a 15-Credit First-Semester Course Load for College Students in Tennessee*. Community College Research Center Working Paper (Vol. 88).
- Braxton, J. M., & Lien, L. A. (2000). The Viability of Academic Integration as a Central Construct in Tinto's Interactionist Theory of College Student Departure. In *Reworking the Student Departure Puzzle* (pp. 11–28). Nashville, TN: Vanderbilt University Press.
- Chemers, M. M., Hu, L., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology*, 93(1), 55–64.
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, Mar, 3–7. [http://doi.org/10.1016/0307-4412\(89\)90094-0](http://doi.org/10.1016/0307-4412(89)90094-0)
- Chickering, A. W., & Gamson, Z. F. (1999). Development and adaptations of the seven principles for good practice in undergraduate education. *New Directions for Teaching & Learning*, (80), 75–81. <http://doi.org/10.1002/tl.8006>
- Complete College America. (2013). *The Power of 15 Credits: Enrollment Intensity and Postsecondary Student Achievement*.
- Duby, P., & Schartman, L. (1997). Credit Hour Loads at College Onset and Subsequent Academic Performance: A Multi-Institutional Pilot Project. *Paper Presented at the 37th Annual Forum of the Association for Institutional Research*. <http://doi.org/ED419696>
- Kinzie, J., Gonyea, R., Shoup, R., & Kuh, G. D. (2008). Promoting Persistence and Success of Underrepresented Students: Lessons for Teaching and Learning. *New Directions for Teaching and Learning*, 115, 21–38.
- Kinzie, J., & Kuh, G. D. (2007). Creating a Student-Centered Culture. In G. L. Kramer (Ed.), *Fostering student success in the campus community* (1st ed., pp. 17–43). San Francisco, CA: Jossey-Bass.
- Martin, A. J., Wilson, R., Liem, G. A. D., & Ginns, P. (2013). Academic Momentum at University/College: Exploring the Roles of Prior Learning, Life Experience, and Ongoing Performance in Academic Achievement Across Time. *The Journal of Higher Education*, 84(5), 640–674. <http://doi.org/10.1353/jhe.2013.0029>
- Stage, F. K. (1989). Motivation, Academic and Social Integration, and the Early Dropout. *American Educational Research Journal*, 26(3), 385–402.
- Szafran, R. F. (2001). The effect of academic load on success for new college students: Is lighter better?

Research in Higher Education, 42(1), 27–50. <http://doi.org/10.1023/A:1018712527023>

Tinto, V. (1975). Dropout from Higher Education: A Theoretical Synthesis of Recent Research. *Review of Educational Research*, 45(1), 89–125.

Tinto, V. (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition* (2nd ed.).

Volkwein, J. F., & Lorang, W. G. (1996). Characteristics of Extenders: Full-Time Students Who Take Light Credit Loads and Graduate in More Than Four Years. *Research in Higher Education*, 37(1), 43–68. <http://doi.org/10.1007/bf01680041>