

Research Brief #190

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Top Twenty Courses with Low Success Rates: Fall 2016, 2017, and 2018

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At the request of “The Learning Center” (TLC), the Office of Institutional Research, Planning and Institutional Effectiveness conducted an analysis of student success rates in courses across all disciplines with the purpose of identifying historically difficult courses (average success rates less than 70 percent) that might benefit from additional tutoring support. Related research conducted by the Office of Institutional Research, Planning, and Institutional Effectiveness includes Research Brief #47-*Top Twenty Courses with Historically Low Success Rates: Fall 2009, 2010 and 2011* (Parker, Meuschke, & Gribbons, 2013), *Supplemental Instruction Needs Assessment: Spring 2009* ad hoc report (Parker, et al., 2009), Research Brief #77-*Top Twenty Courses with Low Success Rates: Fall 2011, 2012, and 2013* (Meuschke, Gribbons, & Parker, 2015), and Research Brief #116-*Top Twenty Courses with Historically Low Success Rates: Fall 2014, 2015 and 2016* (Parker, et al., 2016). Results from the current analysis are intended to inform tutoring support needs.

Upon review of the results, the following observations were made:

- Top 20 courses with the historically lowest success rates were:

Table 1. Top 20 courses with the historically lowest success rates

COURSE	Course Title
MATH-059	Algebra Preparation – Computer Assisted
MATH-060	Elementary Algebra
MATH-070	Intermediate Algebra
THEATR-186A	Technical Theatre I (Beginning)
COUNS-142	Learning to Learn
MATH-058	Algebra Preparation
GERMAN-101	Elementary German I
SPAN-211	Spanish for Heritage Speakers I
ITAL-101	Elementary Italian I
MATH-083	Geometry

COURSE	Course Title
PHILOS-220	Introduction to Comparative Religion
ASTRON-102	Our Solar System & Other Planetary Systems
BIOSCI-201	Introduction to Human Anatomy
COUNS-111	Introduction to College and Strategies for Success
ENGL-096	Accelerated Preparation for College Reading & Writing
KPET-201	Principles of Physical Fitness & Conditioning
MATH-103	College Algebra
MATH-211	Calculus I
THEATR-120	Stagecraft
ARCHT-110	Architectural Drafting

- Math courses among the top 20 courses with the lowest success rates include: Computer Assisted Algebra (MATH-059), Elementary Algebra (MATH-060), Intermediate Algebra (MATH-070), Algebra Preparation (MATH-058), Geometry (MATH-083), College Algebra (MATH-103). And Calculus I (MATH-211). The previous research study also included Elementary Algebra (MATH-060), Intermediate Algebra (MATH-070), Computer Assisted Algebra (MATH-059), Math Analysis (MATH-240) among the top 20 historically difficult courses.
- Career Education (CE) courses in the top 20 historically difficult courses include Technical Theatre I (Beginning) (THEATRE-186A), Stagecraft (THEATRE-120), and Architectural Drafting (ARCHT-110). The previous research study did not include any of these courses (Parker, et al., 2016).
- Other courses identified in the top 20 historically difficult course list that were also identified in the previous research were: Elementary German (GERMAN-101) and Learning to Learn (COUNS-142) (Parker, et al., 2016).

Table 2. Historically Difficult Courses: Fall 2016, 2017, and 2018

*success rates less than 70%

Course	Course Title	Average Success Rate
MATH-059	Algebra Preparation	37%
MATH-060	Elementary Algebra	44%
MATH-070	Intermediate Algebra	46%
THEATR-186A	Technical Theatre I (Beginning)	46%
COUNS-142	Learning to Learn	50%
MATH-058	Algebra Preparation – Computer Assisted	51%
GERMAN-101	Elementary German I	52%
SPAN-211	Spanish for Heritage Speakers I	56%
ITAL-101	Elementary Italian I	57%
MATH-083	Geometry	57%
PHILOS-220	Introduction to Comparative Religion	57%
ASTRON-102	Our Solar System & Other Planetary Systems	58%
BIOSCI-201	Introduction to Human Anatomy	59%
COUNS-111	Introduction to College and Strategies for Success	59%
ENGL-096	Accelerated Preparation for College Reading & Writing	59%
KPET-201	Principles of Physical Fitness & Conditioning	59%
MATH-103	College Algebra	59%
MATH-211	Calculus I	59%
THEATR-120	Stagecraft	59%
ARCHT-110	Architectural Drafting	60%
BIOSCI-204	Human Anatomy and Physiology I	60%
CMPNET-151	CCNA Prep 1	60%
ENGL-089	Essential Reading and Writing Skills	60%
MATH-212	Calculus II	61%
MATH-213	Calculus III	61%
PHILOS-101	Introduction to Philosophy	61%
SOCI-105	Multiculturalism in the United States	61%
ESL-100	College Reading and Writing IV	62%
PHYSIC-220	Physics for Scientists & Engineers: Electricity and Magnetism	62%
SOCI-137	Statistics for the Social Sciences	62%
CAWT-076	Introduction to WordPress	63%

Course	Course Title	Average Success Rate
CMPSCI-256	Discrete Structures	63%
PHILOS-106	Critical Reasoning	63%
SOCI-110	Self and Society	63%
SOCI-230	Sociology of Sexualities	63%
COMS-260	Communication and Gender	64%
HLHSCI-151	Emergency Medical Technician	64%
HUMAN-100	Introduction to Studies in the Humanities	64%
MUSIC-160	Guitar Studies I	64%
PHYSIC-110	General Physics I	64%
GMD-142	Digital Illustration	65%
HIST-112	United States History II	65%
PHILOS-230	Symbolic Logic	65%
PSYCH-101	Introduction to Psychology	65%
BUS-211	Business Law	66%
ENGL-091	Introduction to College Reading and Writing	66%
PHOTO-140	History of Photography	66%
PHOTO-150	Cameras and Composition	66%
PHOTO-155	Photography	66%
HIST-111	United States History I	67%
ID-110	Architectural Drafting	67%
BUS-201	Principles of Accounting I	68%
COMS-256	Intercultural Communication	68%
COUNS-100	Success Strategies for the Reentry Adult	68%
GEOG-102	Human Geography	68%
GEOG-104	World Regional Geography	68%
GMD-120	History of Graphic Design	68%
HIST-101	History of Western Civilization: Pre-Industrial West	68%
MEA-110	Writing for Journalism and New Media	68%
PSYCH-109	Social Psychology	68%
CMPSCI-111	Introduction to Algorithms & Programming/Java	69%
CMPSCI-111L	Introduction to Algorithms & Programming Lab	69%
ENVRMT-101	Introduction to Environmental Studies	69%
MATH-102	Trigonometry	69%

Recommendations

Upon review of the results, the following recommendations should be taken into consideration:

- Discuss results with faculty to identify which of the courses from table 1 is suitable for tutoring.
- Work with faculty to better understand the specific aspects of the courses in the top 20 list that are problematic for students, including reviewing results from course student learning outcomes (SLOs).
- Explore ways to market tutoring opportunities to instructors who teach courses identified in the top 20 list of courses with historically low success rates and students who enroll in them.
- Disseminate the results to department chairs and School deans so the results can be integrated with department SLO and program planning.

Methodology

1. To conduct the analysis, data were obtained through the College's 320 and Chancellor's Office USX referential files from Fall 2016, 2017 and 2018. Within these files, courses included in the analysis were identified by section type. To perform the analyses data obtained were analyzed using the Statistical Package for the Social Science (SPSS, 2017) and Excel (2016).
2. Exclusions
 - a. In-service training and Cooperative Work Experience courses.
 - b. Courses with less than 4 sections offered when all fall terms included were combined.
 - c. Courses with less than 10 students enrolled.
 - d. Courses with only one semester of data.
3. Definitions for retention and success rates
 - a. **Course Retention** is defined as the percent of students retained in courses out of total enrolled in courses: Numerator = Number of students (duplicated) with A, B, C, D, F, I, CR/P, FW, NC/NP; Denominator = Number of students (duplicated) with A, B, C, D, DR, F, I, W, CR/P, FW, NC/NP. (This report uses the RP Group definition, which facilitates statewide comparisons.)
 - b. **Course Success** is defined as the percent of students successful in courses out of total enrolled in courses: Numerator = Number of students (duplicated) with A, B, C, CR/P; Denominator = Number of students (duplicated) with A, B, C, D, DR, F, FW, CR/P, NC/NP, W, I. (This analysis uses the RP Group definition, which facilitates statewide comparisons.)
 - c. **Historically Low Success Rates** is defined as courses with an average success rate of less than 70 percent over at least two Fall terms between 2014 and 2016.

References

- Meuschke, D.M., Gribbons, B.C., & Parker, C.A. (2016, September). Research Brief #116. Top twenty courses with low success rates: Fall 2016, 2017, and 2018.
- Meuschke, D.M., Gribbons, B.C., & Parker, C.A. (2015, January). Research Brief #77. Top twenty courses with low success rates: Fall 2011, 2012, and 2013.
- Parker, C.A., Meuschke, D.M. & Gribbons, B.C. (2013, January). Research Brief #47. Top twenty courses with historically low success rates: Fall 2009, 2010 and 2011.
- Parker, C.A., Meuschke, D.M. & Gribbons, B.C. (2009, July). Ad Hoc Report. Supplemental instruction needs assessment: spring 2009. College of the Canyons: Santa Clarita, CA.

For more detailed information on this research brief, stop by the Institutional Research office located in BONH-224, or call Catherine Parker, Research Analyst at 661.362.5879 or Daylene Meuschke, AVP of Institutional Research, Planning, and Institutional Effectiveness at 661.362.5329.