# 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- <br> $\mathbf{0 5 9}$ | Algebra Preparation - Computer <br> Assisted |
| MATH- <br> 060 | Elementary Algebra |
| MATH- <br> 070 | Intermediate Algebra |
| THEATR- <br> 186A | Technical Theatre I (Beginning) |
| COUNS- <br> $\mathbf{1 4 2}$ | Learning to Learn |
| MATH- <br> $\mathbf{0 5 8}$ | Algebra Preparation |
| GERMAN <br> $\mathbf{- 1 0 1}$ | Elementary German I |
| SPAN-211 | Spanish for Heritage Speakers I |
| ITAL-101 | Elementary Italian I |
| MATH- <br> $\mathbf{0 8 3}$ | Geometry |


| COURSE | Course Title |
| :---: | :--- |
| PHILOS- <br> $\mathbf{2 2 0}$ | Introduction to Comparative Religion |
| ASTRON- <br> $\mathbf{1 0 2}$ | Our Solar System \& Other Planetary <br> Systems |
| BIOSCI- <br> $\mathbf{2 0 1}$ | Introduction to Human Anatomy |
| COUNS- <br> $\mathbf{1 1 1}$ | Introduction to College and Strategies <br> for Success |
| ENGL- <br> $\mathbf{0 9 6}$ | Accelerated Preparation for College <br> Reading \& Writing |
| KPET-201 |  <br> Conditioning |
| MATH- <br> $\mathbf{1 0 3}$ | College Algebra |
| THEATR- <br> $\mathbf{1 2 0}$ | Calculus I |
| ARCHT- <br> $\mathbf{1 1 0}$ | 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 |  | 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 | $63 \%$ |
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| Course |  | 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 | $69 \%$ |
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## 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.

