| | Foundation High School Plan with Endorsement<br>Math Course Options<br>2022-2023 | | |
|---|---|---|---|
| 1st Math | ❏ Algebra I | | |
| 2nd Math | ❏ Geometry | | |
| 3rd Math | ❏ Algebra II* | ❏ Statistics<br>❏ AP Computer Science A | ❏ Mathematical Models with Applications<br>❏ Accounting II^^<br>❏ Robotics II^^<br>❏ Manufacturing Engineering Technology II^ |
| 4th Math & Beyond | ❏ AP Statistics**<br>❏ Dual Credit Math**<br>❏ Precalculus**<br>  ❏ AP Calculus**<br>    ❏ Multivariable Calculus<br>❏ AP Computer Science A<br>❏ College Prep Math<br>❏ Statistics<br>❏ Mathematical Models with Applications<br>❏ Accounting II^^<br>❏ Robotics II^^<br>❏ Manufacturing Engineering Technology II^ | ❏ Algebra II*<br>❏ Statistics<br>❏ AP Computer Science A<br>❏ Mathematical Models with Applications<br>❏ Accounting II^^<br>❏ Robotics II^^<br>❏ Manufacturing Engineering Technology II^ | ❏ Algebra II*<br>❏ Statistics<br>❏ AP Computer Science A |

*Algebra II is encouraged for all LISD students and is required for Distinguished Level of Achievement (DLA) and STEM Endorsement

**STEM Endorsement advanced math course options

^ Career Tech Education (CTE) Course offered at TECC-West

^^ Career Tech Education (CTE) Course offered at Campus

# LISD Secondary Math Courses 2022-2023

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| **Math Models with Applications**<br>❖ Prerequisite: Algebra I; Recommendation: Geometry<br>❖ Grade Level: 11-12<br>❖ Satisfies 3rd math for FHSP | **Why Math Models with Applications?**<br>❖ Satisfies 3rd math for FHSP<br>❖ Math content learned through modeling of real-life problems<br>❖ Content that supports variety of options in future math coursework including college core math requirement - Contemporary Mathematics | **Who should consider taking Math Models with Applications?**<br>❖ 11th-12th grade students:<br>➢ Want math coursework that explores modeling in finance, science, fine arts, and social science fields<br>➢ Want mathematics coursework based on college/career plans in Arts & Humanities |
| **Statistics**<br>❖ Prerequisite: Algebra I; Recommendation: Geometry<br>❖ Grade Level: 11-12<br>❖ Satisfies 3rd or 4th math for FHSP + Endorsement | **Why Statistics?**<br>❖ Satisfies 3rd or 4th math for FHSP + Endorsement<br>❖ Build understanding of statistical data seen in everyday life<br>❖ College core math requirement for Public Services and Business & Industry widely includes coursework in Statistics<br>❖ More data analysis on SAT than in past | **Who should consider taking Statistics?**<br>❖ Completing non-STEM DLA endorsement path:<br>➢ Want coursework in statistics based on college/career plans in Public Services or Business & Industry<br>➢ Want coursework to help improve data analysis strand on SAT<br>➢ Want math coursework to support better understand statistical data seen in everyday life |
| **Algebra II**<br>❖ Prerequisite: Algebra I; Recommendation: Geometry<br>❖ Grade Level: 10-12<br>❖ Satisfies 3rd or 4th math for FHSP + Endorsement | **Why Algebra II?**<br>❖ Satisfies 3rd or 4th math for FHSP + Endorsement<br>❖ Required for Distinguished Level of Achievement (DLA) and STEM Endorsement<br>❖ Widely needed to meet college admissions requirements in math at 4 year universities<br>❖ Content included on TSI test for college placement and other college entrance exams<br>❖ Foundation for more advanced mathematics in STEM coursework<br>❖ May impact certain state financial aid programs (Important Notification) | **Who should consider taking Algebra II?**<br>❖ Completing STEM or non-STEM DLA endorsement path:<br>➢ Want advanced mathematics coursework to support college/career plans<br>➢ Want coursework to help improve SAT/ACT/TSI exam scores<br>➢ Want to meet college admissions requirements<br>➢ Want to meet DLA requirements |

| College Prep Math | Why College Prep Math? | Who should consider taking College Prep Math? |
|---|---|---|
| ❖ Sequence: After Geometry & Algebra II = 4th math<br>❖ Intermediate College Algebra Textbook<br>❖ Successful completion = TSI math requirement met for NCTC and Collin College | ❖ HB 5 course that satisfies 4th math on FHSP + Endorsement<br>❖ To prepare students for entry-level college coursework<br>❖ To support students in meeting TSI math assessment requirements | ❖ 12th grade students who have not yet met TAC Texas Success Initiative Exemptions that Define College Readiness as indicated by:<br>  ➢ ACT: composite of 23 with minimum of 19 on the math test<br>  ➢ SAT: minimum of 530 on math test<br>  ➢ TSI Math Assessment: minimum of 350 |
| **Dual Credit Math Courses** | **Why Dual Credit Math?** | **Who should consider taking Dual Credit Math?** |
| ❖ ½ credit each<br>❖ College Algebra<br>❖ Precalculus<br>❖ Trigonometry<br>❖ Calculus 1<br>❖ Calculus for Business & Social Sciences<br>❖ Math for Business & Social Sciences<br>❖ Elementary Statistical Methods<br>❖ Contemporary Mathematics | ❖ To provide college ready students the opportunity to gain college credit while in high school<br>❖ To support high school students as they transition to college level coursework<br>  ➢ Content<br>  ➢ Culture<br>  ➢ Skills<br>  ➢ Habits of Mind<br>❖ HB 5: Student may earn Performance Acknowledgement on transcript for outstanding performance in dual credit courses (12 hours, 3.0 GPA) | ❖ 11th-12th grade students who are interested in earning college credit and are currently ready for entry-level college coursework as indicated by:<br>  ➢ Coursework:<br>    ■ Successful completion of Algebra II, College Prep Math, or Precalculus<br>  ➢ TAC Texas Success Initiative Exemptions that Define College Readiness:<br>    ■ ACT: composite of 23 with minimum of 19 on the math test<br>    ■ SAT: minimum of 530 on math test<br>    ■ TSI Math Assessment: minimum of 350 |
| **Precalculus** | **Why Precalculus?** | **Who should consider taking Precalculus?** |
| ❖ Prerequisite: Algebra I, Geometry, Algebra II<br>❖ Grade Level: 11-12<br>❖ Satisfies 3rd or 4th math for FHSP + Endorsement | ❖ Satisfies 3rd or 4th math for FHSP + Endorsement<br>❖ May be beneficial in admissions process, particularly at more competitive universities<br>❖ Foundation for more advanced mathematics in STEM and Business & Industry coursework such as Calculus | ❖ Completing STEM or non-STEM DLA endorsement path:<br>  ➢ Want advanced mathematics coursework to support college/career plans in STEM or Business & Industry<br>  ➢ Want coursework to be competitive in admissions process |

| AP Statistics | Why AP Statistics? | Who should consider taking AP Statistics? |
|---|---|---|
| ❖ Prerequisite: Algebra I, Geometry, Algebra II<br>❖ Grade Level: 11-12<br>❖ Satisfies 3rd or 4th math for FHSP + Endorsement | ❖ Satisfies 3rd or 4th math for FHSP + Endorsement<br>❖ May be beneficial in admissions process or scholarship opportunities, particularly at more competitive universities<br>❖ An introductory statistics course, similar to the AP Statistics course, is typically required for majors such as social sciences, health sciences and business.<br>❖ Science, engineering and mathematics majors usually take an upper-level calculus-based course in statistics, for which the AP Statistics course is effective preparation<br>❖ Students who successfully complete the course and exam may receive credit, advanced placement or both for a one-semester introductory college statistics course | ❖ Completing STEM or non-STEM DLA endorsement path:<br>  ➢ Want advanced mathematics coursework to support college/career plans, in STEM, Public Services, or Business & Industry<br>  ➢ Want to complete studies equivalent to a one semester, introductory, non-calculus-based, college course in statistics<br>  ➢ Want opportunity to potentially earn college credit and/or advanced placement through AP exam<br>  ➢ Want coursework to be competitive in admissions process or scholarship opportunities |
| AP Calculus | Why AP Calculus? | Who should consider taking AP Calculus? |
| ❖ Prerequisite: Precalculus<br>❖ Grade Level: 11-12<br>❖ Satisfies 3rd or 4th math for FHSP + Endorsement | ❖ Satisfies 3rd or 4th math for FHSP + Endorsement<br>❖ May be beneficial in admissions process or scholarship opportunities, particularly at more competitive universities<br>❖ Calculus coursework is generally required for science, engineering, business, and mathematics majors<br>❖ Students who successfully complete the course and exam may receive credit, advanced placement or both for a one- or two-semester college calculus course | ❖ Completing STEM or non-STEM DLA endorsement path:<br>  ➢ Want advanced mathematics coursework to support college/career plans in STEM or Business & Industry<br>  ➢ Want to complete studies equivalent to a one or two semester, college course in calculus<br>  ➢ Want opportunity to potentially earn college credit and/or advanced placement through AP exam<br>  ➢ Want coursework to be competitive in admissions process or scholarship opportunities |
| Multivariable Calculus | Why Multivariable Calculus? | Who should consider taking Multivariable Calculus? |
| ❖ Prerequisite: AP Calculus BC<br>❖ Grade Level: 11-12<br>❖ Satisfies state elective credit | ❖ Study advanced mathematics beyond AP Calculus BC while in high school<br>❖ Advanced Calculus coursework is generally required for science, engineering, and mathematics majors | ❖ Students who have accelerated their math coursework to complete AP Calculus BC by junior year or earlier:<br>  ➢ Want to continue the study of Calculus beyond AP Calculus BC<br>  ➢ Want advanced mathematics coursework to support college/career plans in STEM field |

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| **AP Computer Science A**<br>❖ Recommended Prerequisite: Algebra I, Computer Science I<br>❖ Grade Level: 9-12<br>❖ Satisfies 3rd or 4th math for FHSP + Endorsement | **Why AP Computer Science A?**<br>❖ Satisfies 3rd or 4th math for FHSP + Endorsement<br>❖ May be beneficial in admissions process or scholarship opportunities, particularly at more competitive universities<br>❖ Students who take the AP Computer Science A course and exam are well prepared to continue their study of computer science and its integration into a wide array of computing and STEM-related fields<br>❖ Students who successfully complete the course and exam may receive credit, advanced placement or both for a one-semester college computer science course | **Who should consider taking AP Computer Science A?**<br>❖ Completing STEM or non-STEM DLA endorsement path:<br>➢ Want advanced mathematics coursework to support college/career plans in STEM, particularly in the field of computer science<br>➢ Want to major in other disciplines and want to be informed citizens in today's technological society<br>➢ Want to complete studies equivalent to an introductory college course in computer science<br>➢ Want opportunity to potentially earn college credit and/or advanced placement through AP exam<br>➢ Want coursework to be competitive in admissions process or scholarship opportunities |
| **Accounting II**<br>❖ Prerequisite: Accounting I<br>❖ Grade Level: 11-12<br>❖ Satisfies 3rd math for FHSP<br>❖ CTE course offered at campus | **Why Accounting II?**<br>❖ Satisfies 3rd math for FHSP<br>❖ Explores and connects appropriate mathematics used in the fields of accounting, finance, and financial auditing | **Who should consider taking Accounting II?**<br>❖ 11th - 12th students:<br>➢ Want mathematics coursework to support college/career plans in the fields of accounting, finance, and financial auditing<br>➢ Want to take coursework in an applied math course |
| **Robotics II**<br>❖ Prerequisite: Robotics I<br>❖ Recommendation: Algebra II or Co-enrollment in Algebra II<br>❖ Grade Level: 10-12<br>❖ Satisfies 3rd math for FHSP<br>❖ CTE course offered at campus | **Why Robotics II?**<br>❖ Satisfies 3rd math for FHSP<br>❖ Explores and connects appropriate mathematics used in the field of engineering and robotic design | **Who should consider taking Robotics II?**<br>❖ 10th - 12th students:<br>➢ Want mathematics coursework to support college/career plans in the field of engineering<br>➢ Want math coursework used in the field of engineering where students solve and model robotic design problems<br>➢ Want to explore the programming and math used with artificial intelligence in the manufacturing industry<br>➢ Want to take coursework in an applied math course |
| **Manufacturing Engineering Technology II**<br>❖ Prerequisite: Manufacturing Engineering Technology I<br>❖ Recommendation: Algebra II , Computer Science I, or Physics<br>❖ Grade Level: 10-12 or Age 16+<br>❖ Satisfies 3rd math for FHSP<br>❖ CTE course offered | **Why Manufacturing Engineering Technology II?**<br>❖ Satisfies 3rd math for FHSP<br>❖ Explores and connects appropriate mathematics used in the field of manufacturing engineering | **Who should consider taking Manufacturing Engineering Technology II?**<br>❖ 11th - 12th students:<br>➢ Want mathematics coursework to support college/career plans in the fields of manufacturing engineering<br>➢ Want to explore the programming and math used in CNC technology and machining<br>➢ Want to take coursework in an applied math course |

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**Other Considerations**
- ❖ Algebra II is encouraged for all LISD students and is required for STEM endorsement and Distinguished Level of Achievement (DLA)
- ❖ STEM endorsement IS NOT satisfied by regular Statistics, but IS satisfied by AP Statistics
- ❖ College Prep Math does NOT satisfy STEM endorsement under math pathway, but DOES satisfy STEM endorsement for the other pathways (Science, Computer Science, CTE) and DOES satisfy non-STEM endorsement when taken as 4th math after Algebra II

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| Considerations by Career Interest for 4th Math and Beyond<br>(Based on Algebra 1, Geometry, & Algebra 2 Completed) | | | | | | |
|---|---|---|---|---|---|---|
| **Future Career Interest** | | **TSI Not Yet Met** | **TSI Met** | | | |
| | | | **General** | **Honors/Advanced Placement** | **Dual Credit** | **CTE** |
| **Arts & Humanities** | Art<br>Music<br>Theater | ❑ College Prep Math | ❑ Math Models with Applications<br>❑ Statistics | ❑ AP Statistics | ❑ *Math 1332<br>❑ *Math 1342 | |
| **Public Services** | Social Work<br>Criminal Justice<br>Psychology<br>History<br>Nursing | ❑ College Prep Math | ❑ Statistics | ❑ AP Statistics | ❑ *Math 1342 | |
| **Business & Industry** | Accounting<br>Advertising<br>Finance | ❑ College Prep Math | ❑ Statistics<br>❑ Precalculus | ❑ Honors Precalculus<br>❑ AP Calculus<br>❑ AP Statistics | ❑ *Math 1324<br>❑ Math 1325 | ❑ Accounting II |

| | Marketing | | | | | |
|---|---|---|---|---|---|---|
| **STEM or Teaching** | Science Technology Engineering Math Teaching | ❏ College Prep Math | ❏ Precalculus | ❏ Honors Precalculus   ❏ AP Calculus   ❏ Multivariable Calculus<br>❏ AP Statistics<br>❏ AP Computer Science A | ❏ *Math 1314<br>❏ *Math 1342<br>❏ Math 1316<br>❏ Math 2412<br>❏ Math 2413 | ❏ Robotics II<br>❏ Manufacturing Engineering Technology II |
| **Multi-disciplinary** | General Studies or Undecided | ❏ College Prep Math | ❏ Statistics<br>❏ Precalculus | ❏ Honors Precalculus   ❏ AP Calculus<br>❏ AP Statistics<br>❏ AP Computer Science A | ❏ *Math 1314<br>❏ *Math 1342 | ❏ Accounting II<br>❏ Robotics II<br>❏ Manufacturing Engineering Technology II |

* Entry level dual credit math course with TSI as only prerequisite.  All other courses should refer to course description for additional prerequisites.