

## LTT CLASS DESCRIPTIONS 2019-2020

### ABOUT LTT'S MATH PROGRAM - What makes us unique?

- LTT mathematics classes are modeled on current best practice teaching methodologies and all math classes supplement our textbook based curriculum by incorporating various online tools that are becoming more and more prevalent in math education in high schools and universities. We use [aleks.com](http://aleks.com) for standards based spiral review, [Desmos.com](http://Desmos.com) for hands on math activities, [Symbolab](http://Symbolab), for online graphing, and [geogebra.com](http://geogebra.com) for exploring geometric relationships.
- Because we recognize that students work at different levels, we offer many of our math classes at both standard college prep and honors level. Students are offered the opportunity to earn honors points throughout the year on tests and homework assignments. If they complete the honors assignments and tests with acceptable grades (average on honors work > 75), they receive a special Honors designation on their final grade report.
- **To keep skills current, summer review assignments will be assigned by mid-June.** Depending on which class you take, these assignments will be in [aleks.com](http://aleks.com), [teachingtextbooks.com](http://teachingtextbooks.com), or downloadable pdf files. The assignments, which will review all of the prerequisites, will be due the first day of class and count as your first homework grade. If you have significant trouble with it, you should consider taking a review class over the summer.

**TRANSITION TO ALGEBRA** (1.5 hour tutorial) - This class is a gentle introduction to Algebra and is designed to build students' algebraic habits of mind and key mathematical ways of thinking. This class is targeted at both younger students who have finished elementary math and pre-algebra but do not feel quite ready for the rigors of our Algebra I class as well as older students who may have tried Algebra and had difficulty. This class could also work as a supplement to a student taking a pre-algebra course at home. Students explore algebraic logic puzzles and activities that connect to and extend algebra course topics as well as learn broadly applicable tools and strategies to help them make sense of basic algebra. We discuss and refine ideas as students work through mental mathematics activities, written puzzles, and spoken dialogues that engage them in cultivating mathematical knowledge, intuition, and skills. This class is a great transition from elementary level math to algebra. There are weekly homework assignments and students should expect to spend approximately 2 -3 hours per week on homework. Worktexts "Transition to Algebra" provided.

**Prerequisites:** pre-algebra skills with average elementary school arithmetic background. Previous experience with algebra is not required, however if initial algebra studies were problematic, this class may provide the solution! Placement test can be made available upon request.

**Required Materials:** 3 subject notebook with built in folder/dividers, scientific calculator

**Material fee:** \$55 - includes required worktexts

**Tutor:** Melissa Lamb, [melissa745@gmail.com](mailto:melissa745@gmail.com)

**ALGEBRA 1/HONORS ALGEBRA 1** (2 hour tutorial) – This course is intended for students with a firm foundation in the skills covered in a typical Pre-Algebra class and is geared for students who are dedicated to serious work done at home. This is a high school level class that can be taken at either the standard or honors level. You should expect 4+ hours of homework a week with periodic take-home tests. Because we only meet once per week, students must be prepared to do significant daily homework at home in between meetings including at least one [aleks.com](http://aleks.com) assignment. We will start with Chapter 3 of the textbook because Chapter 1 and 2 are Pre-Algebra topics. Required summer assignments will review these earlier topics. Topics covered in this class include: polynomial arithmetic, factoring polynomials, transforming formulas, algebraic fractions, negative exponents and scientific notation, functions and lines, equations and graphing, systems of linear equations, inequalities, rational and irrational numbers, and quadratic function.

**Prerequisites:** Students should have a good command of order of operations, evaluation simple and complex expressions, solving linear equations, problem solving process, signed number arithmetic, positive exponents, and the distributive property. Prerequisite to admission into this class is passing an Algebra readiness test administered by the instructor.

**Required Materials:** **Algebra 1**, by Larson, Boswell, Kanold and Stiff, published by McDougall Littell, Copyright 2007, ISBN 0618594027. (Can be purchased used through Amazon, Abe Books and other used book sources.) A **3-ring binder** with 5 dividers, lined and graph paper. You will also need a **calculator** that can handle trig. Functions and logarithms (the Casio FX-300 ES PLUS, the Casio fx-300MS, and the TI-30XS MultiView are examples for under \$20). Do not purchase a graphing calculator.

**Material fee:** \$65 – includes one year subscription to [aleks.com](http://aleks.com) and summer review assignments.

**Tutor:** Sandy Tracy, [sandy@tracysite.com](mailto:sandy@tracysite.com)

**ALGEBRA 2/HONORS ALGEBRA 2** (2 hour tutorial) – This course is intended for students with a firm foundation in basic Algebra skills and is geared for students who are dedicated to serious work done at home. This is a high school level class that can be taken at either the standard or honors level. You should expect 4+ hours of homework a week with periodic take-home tests.

Because we only meet once per week, students must be prepared to do significant daily homework at home in between meetings including at least one [aleks.com](https://www.aleks.com) assignment. We will start with Section 2.6 of the textbook because the earlier sections are Algebra 1 topics. Required summer assignments will review these earlier topics. Topics covered in this class include: systems of inequalities, factoring quadratics, quadratic equations and functions, rational expressions, complex fractions, irrational and complex numbers, direct and indirect variation, polynomial equations, systems of equations in 2 or more variables, exponential and logarithmic functions, triangle trigonometry, and trigonometric applications.

**Prerequisites:** Prerequisite to admission into this class is successful completion of the Algebra 1 class or passing an Algebra 2 readiness test administered by the instructor. [If a student is not ready for Algebra 2, the Algebra 1 class is a great place to begin.]

**Required Materials:** **Algebra 2**, by Larson, Boswell, Kanold and Stiff, published by McDougall Littell, Copyright 2007, ISBN 0618595414. (Can be purchased used through Amazon, Abe Books and other used book sources.) A **3-ring binder** with 5 dividers, lined and graph paper. You will also need a **calculator** that can handle trig. Functions and logarithms (the Casio FX-300 ES PLUS, the Casio fx-300MS, and the TI-30XS MultiView are examples for under \$20). Do not purchase a graphing calculator.

**Material fee:** \$65 – includes one year subscription to [aleks.com](https://www.aleks.com) and summer review assignments.

**Tutor:** Sandy Tracy, [sandy@tracysite.com](mailto:sandy@tracysite.com)

**GEOMETRY** (1.5 hour tutorial) – This course is intended to introduce students to geometric problem solving. This is a high school level class that can be done at the standard college prep or honors level. Students will learn to recognize the appropriate application of rules, sound reasoning, and counter-argument in order to arrive at reliable conclusions. They will be encouraged to think critically about all aspects of the course material and will learn to communicate concepts clearly. The development of logical reasoning will be central to the course. Additionally, through discussion, careful thought, and general observation, students will develop an understanding and appreciation of the order that intrinsically exists in God’s creation, observing that mathematics is both inherently linked to the realities of our world and consistent with the existence and wisdom of our Creator. Students must be dedicated to independent study and willing to work hard. This is a high school level class. Four or more hours of homework a week, with periodic take-home tests, can be expected. Topics will include, but not be limited to, deductive reasoning, proofs, relationships of lines, angles, triangle congruence, coordinate geometry, polygons, area and volume, right triangle relationships, and basic trigonometry.

**Prerequisites:** Students should have taken Algebra I (grade B or better). Algebra skills needed include competence and confidence with signed number arithmetic; evaluating algebraic expressions; linear equations and functions; graphing lines; factoring quadratics; polynomial addition, subtraction and multiplication; building and solving systems of equations; and inequalities. A working understanding of radicals will also be helpful.

**Required Materials:** 1.5-inch 3-ring binder with 5 dividers, lined and graph paper, and scientific calculator. Geometry by Larson, Boswell, and Stiff, published by McDougall Littell, ISBN 0-618-14051-4.

**Material fee:** \$70 - includes one year subscription to [aleks.com](https://www.aleks.com) and geometry tool kit.

**Tutor:** Shayne Picard, [shaypic@gmail.com](mailto:shaypic@gmail.com)

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**ABOUT LTT’s WRITING PROGRAM:** Our Intro to Writing, Writing B, and Writing C are based on middle school and high school writing levels from *Institute for Excellence in Writing* ([www.iew.com](http://www.iew.com)). Many students will remain in the same writing classes for two years to solidify the concepts presented, giving them the confidence to move to a higher level of writing. Although the writing and grammar concepts do not change, the writing assignments rotate every other year within the level, creating little repetition for second-year students.

**INTRODUCTION TO WRITING** (1.5 hour tutorial) - In this 32-week course, students in grades 6-8 will be introduced to the foundations of writing using *Excellence in Writing’s Level B Intensive* curriculum. Covering all nine of IEW’s structural models, this class will alternate all year between the creative writing units and the report writing units. Along with the nine structural models, students will be taught basic grammar rules and IEW’s stylistic techniques to improve the syntax of their sentences. Students will build a binder throughout the year that includes some of the contents of the IEW Student Resource Notebook and many supplemental resources. Class time will include instruction, modeling, revision, and one-on-one assistance with papers. Students should plan on about 2 hours of homework per week. All paragraphs/papers (rough drafts and final drafts) must be typed before submission (parents can help with this if needed) and must be handed in during class, not by e-mail. This class is limited to 15 students.

**Required Materials:** 2-inch, three-ring binder with 7 tab dividers, a blue or black pen, a colored pen or pencil (except red), and a highlighter. Students will also need the *Easy Grammar Plus Student Workbook* ISBN 978-0936981147. It is available from Rainbow Resource or [ChristianBook.com](http://ChristianBook.com) for \$11-\$15. Do **NOT** buy the *Easy Grammar Plus Teacher* book (this costs around \$35).

**Material Fee:** \$55 per student which will cover the cost of the *IEW Level B* source materials which will be ordered by the instructor and any other costs incurred for copies and materials.

**Tutor:** Allison Desautell, allisondesautell@gmail.com

**Writing B** (1.5 hour tutorial): This 32-week course is a continuation from LTT's Introduction to Writing class or it can be used as an accelerated entry course for a high schooler. Using *Excellence in Writing's Level B Continuation* curriculum, students review the structural models and lay a solid foundation for essay writing. Along with reviewing grammar conventions and mastering IEW's stylistic techniques, students will add the IEW decorations to their writer's toolbox. In addition, this class includes a fun unit on author imitation and a creative poetry writing component that uses models similarly to IEW. Students will build a binder throughout the year that includes some of the contents of the IEW Student Resource Notebook and many supplemental resources. Class time will include instruction, modeling, revision, and one-on-one assistance with papers. Students should plan on about 3 hours of homework per week. All paragraphs/papers (rough drafts and final drafts) must be typed before submission and must be handed in during class, not by e-mail. This class is limited to 15 students.

**Required Materials:** 2-inch, three-ring binder with 8 tab dividers (8 dividers are needed in this course because of the poetry unit), a blue or black pen, a colored pen or pencil (except red), and a highlighter. Students will also need the *Easy Grammar Plus Student Workbook* ISBN 978-0936981147. It is available from Rainbow Resource or ChristianBook.com for \$11-\$15. Do **NOT** buy the *Easy Grammar Plus Teacher* book (this costs around \$35). Because of the poetry unit, a rhyming dictionary will come in very handy.

**Materials Fee:** \$55 per student which will cover the cost of the *IEW Level B Continuation* source materials which will be ordered by the instructor and any other costs incurred for copies and materials.

**Tutor:** Allison Desautell, allisondesautell@gmail.com

**Writing C** (1.5 hour tutorial): This 32-week high school level class is for students in grades 9-12 who have completed LTT's Writing B or its equivalent. Although this class reviews the IEW structural models learned in Writing B, it puts much more emphasis on formal essay writing. Using the *Excellence in Writing Level C Continuation*, students spend the year writing a variety of essays: expository, narrative, argument, persuasive, personal, and the literary analysis essay. At this level conducting research is essential, so students write a 12-paragraph research paper. For this they learn invaluable skills such as how to choose reliable sources, construct a thesis statement, organize an outline from multiple sources, integrate supporting quotations, and cite their sources. Additionally, all year they work on the skill of summarizing articles and learn advanced grammar and syntactical techniques. Students will build a binder throughout the year that includes some of the contents of the IEW Student Resource Notebook and many supplemental resources. Class time will include instruction, modeling, revision, and one-on-one assistance with papers. Students should plan on about 3-4 hours of homework per week. All paragraphs/papers (rough drafts and final drafts) must be typed before submission and must be handed in during class, not by e-mail. This class is limited to 15 students.

**Required Materials:** 2-inch, three-ring binder with 7 tab dividers, a blue or black pen, a colored pen or pencil (except red), and a highlighter. Students will also need the *Easy Grammar Plus Student Workbook* ISBN 978-0936981147. It is available from Rainbow Resource or ChristianBook.com for \$11-\$15. Do **NOT** buy the *Easy Grammar Plus Teacher* book (this costs around \$35).

**Material Fee:** \$55 per student which will cover the cost of the *IEW Level C Continuation* source materials which will be ordered by the instructor and any other costs incurred for copies and materials.

**Tutor:** Allison Desautell, allisondesautell@gmail.com

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**ABOUT LTT'S SCIENCE PROGRAM:** We recognize at LTT the importance of quality science classes that include complete lab sections. The tutors have developed a program that allows students to progress in science knowledge from middle school through high school. Our tutorials are blessed with authentic science equipment including microscopes and dissections pads plus so much more. We have everything needed including safety equipment to replicate a science course including labs. Our science tutors purposely teach students the skills to write labs and document them correctly in a laboratory notebook. At the end of our high school lab classes, this laboratory notebook also serves as proof for college admissions that course included the full lab requirements. We have also found doing science in a group setting helps facilitate discussion, teamwork, and understanding.

**SCIENCE TRANSITION TO MIDDLE SCHOOL - WATERS OF THE EARTH** (1.5 hour tutorial) - This is full year course aimed approximately at students in grades 5-6 who love science but are not quite ready for the rigors of middle school. Information will be presented in a gentle manner through various modalities including: lectures, discussions, numerous demonstrations and lab activities as well as many group assignments. Some of the skills we will be focusing on in order to better prepare students

for middle school sciences will include: identifying main ideas, outlining, relating cause and effect, writing lab reports and building a science vocabulary. The following topics will be explored: Earth, The Water Planet, Freshwater Resources, Ocean Motions, and Ocean Zones. There will be weekly home assignments and students are expected to spend approximately 1-2 hours per week on homework. The textbook and workbook, *Earth's Waters*, will be purchased by the tutor.

**Prerequisites:** students should have good reading skills and average elementary arithmetic skills.

**Required Materials:** 2-inch, 3-ring binder with dividers, paper and pencils.

**Material Fee:** \$55 (includes required textbook - Prentice Hall Science Explorer - *Earth's Waters*; ISBN 0131150936)

**Tutor:** Anita Gallagher, galanitah@gmail.com

**EARTH SCIENCE:** (1.5 hour tutorial) – This is full year middle school level course focusing on the fundamentals of Earth Science. Topics covered will include: earthquakes, volcanoes, mountains, minerals and rocks, surface and ground water, atmosphere and weather. Information will be presented to students utilizing various modalities including: lectures, discussions, numerous demonstrations, laboratory activities, and group activities. This course includes frequent laboratory experiences where students will learn how to measure, investigate, analyze and report. Lab reports will be introduced and students will generate several full lab reports. Students will be expected to complete assigned reading, written work, and tests outside of class so that we can focus on the activities during class.

**Required Materials:** *BJU Earth Science* - 4th Edition (ISBN 978-1606820704) and a 2" binder with dividers.

**Material Fee:** \$35

**Tutor:** Anita Gallagher, galanitah@gmail.com

**PHYSICAL SCIENCE** (1.5 hour tutorial) – This is a full year high school level course (that can also be taken in late middle school) focusing on physics and general chemistry. In physics students learn about motion, forces, energy, and heat; in chemistry students learn about matter, its composition and the changes it undergoes. This course consists of abundant laboratory experiences where students will learn how to measure, investigate, analyze and report. Lab reports will be introduced and students will generate several full lab reports. Students will be expected to complete assigned reading, written work, and tests outside of class so that we can focus on the activities during class.

**Prerequisites:** Students should be proficient with basic arithmetic skills and currently taking pre-algebra or above.

**Required Materials:** Please purchase calculator (scientific or graphing) and 2" binder with dividers. A *Glencoe Physical Science* textbook will be provided to each student the first day of class by the instructor and will be returned at the end of the course unless you would like to purchase from the instructor.

**Material fee:** \$35

**Tutor:** Anita Gallagher, galanitah@gmail.com

**BIOLOGY** (1.5 hour tutorial) - This is a rigorous college-prep high school course with corresponding lab work including dissections that covers the basic principles of Biology. Topics include overview of the classification of organisms and a survey of representative species, basic cell biology and biochemistry concepts, the anatomy and physiology of representative organisms, genetics, ecology, and a discussion of evolution. The student will be responsible for homework assignments based on questions in the chapters as well as maintaining a laboratory notebook designed to document the experiments performed. This laboratory notebook also serves as proof for college admissions that the Biology course included a laboratory section.

**Required Materials:** *Apologia's Exploring Creation with Biology* - 2<sup>nd</sup> edition, (ISBN 978-1932012545) along with the *Solutions and Test Manual* (ISBN 978-1932012552) by Jay Wile and a binder with dividers and 500 notecards of any size/color. The instructor will provide the lab notebook.

**Material Fee:** \$35

**Tutor:** Melissa Lamb, melissa745@gmail.com

**CHEMISTRY/HONORS CHEMISTRY** (2 hour tutorial) - This is a rigorous college-prep high school course with corresponding lab work that covers the basic principles of Chemistry. Topics include significant figures, moles, stoichiometry, acids and bases, atomic structure, gas laws, and thermodynamics. This class will complete the text, labs, as well as additional practice problems. Students who complete this plan of study will be well prepared for college level Chemistry. Additional independent study work will be offered for those who wish to take this course at the Honors Level. The student will be responsible for homework assignments as well as maintaining a laboratory notebook designed to document the experiments performed. This laboratory notebook also serves as proof for college admissions that the Chemistry course included a laboratory section.

**Prerequisites:** Algebra 1

**Required Materials:** *The Spectrum Chemistry* by Wilemon and Dobbins ISBN 978-0966657869 (textbook only, available at [www.beginningspublishing.com](http://www.beginningspublishing.com) or you may use other available retailers), scientific calculator, and a binder with dividers. The instructor will provide the lab notebook.

**Material Fee:** \$35

**Tutor:** Melissa Lamb, melissa745@gmail.com

**PHYSICS** (1.5 hour tutorial) - This is a rigorous college-prep course with corresponding lab work that covers the basic principles of physics. Topics include general physics concepts, vectors, waves, optics, electricity and magnetism. This class will complete the entire text, labs, as well as additional practice problems. Students who complete this plan of study will be well prepared for college level Physics. The student will be responsible for homework assignments based on questions in the chapters as well as maintaining a laboratory notebook designed to document the experiments performed. This laboratory notebook also serves as proof for college admissions that the Physics course included a laboratory section.

**Prerequisites:** Algebra 2 and a basic knowledge of trigonometric functions (sine, cosine, tangent), or permission of the instructor.

**Required Materials:** *Apologia's Exploring Creation with Physics* (2<sup>nd</sup> edition required) by Jay Wile, scientific calculator, and a binder with dividers. The instructor will provide the lab notebook.

**Material Fee:** \$35

**Tutor:** Melissa Lamb, melissa745@gmail.com

**ANATOMY & PHYSIOLOGY** (1.5 hour tutorial) - This advanced biology high school class provides an introduction to the anatomical structures and physiology of the human body. It covers the different organ systems in detail, explaining how they're structured and how the organs perform their tasks, touching on topics of histology, molecular biology, and biochemistry throughout the class. This course contains laboratory experiments and dissections that help illustrate the topics in the class and the student will be responsible for maintaining a laboratory notebook designed to document the experiments performed. This laboratory notebook also serves as proof for college admissions that the course included a laboratory section.

**Prerequisites:** Biology, Chemistry

**Required Materials:** *Apologia's Advanced Biology: The Human Body - 2<sup>nd</sup> Edition* (ISBN 9781935495727), *Apologia's Advanced Biology Solutions and Test Manual* ISBN 978-1-935495-97-0), and the *Kaplan Anatomy Coloring Book, Fifth Edition* (ISBN 978-1618655-98-1). Students also need a binder with dividers and 500 notecards of any size/color. The instructor will provide the lab notebook.

**Material Fee:** \$35

**Tutor:** Melissa Lamb, melissa745@gmail.com

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