Academic Curriculum

There are four main subject areas covered in math competitions: Algebra, Combinatorics, Geometry, and Number Theory. Our goal at the AwesomeMath Summer Program is to build and hone students problem solving skills in these four fields. We offer 12 courses, each of which lasts for the duration of the camp and covers one of the four subjects mentioned above (though there will be some overlap between disciplines, many techniques are helpful for different kinds of problems.) Each course meets 5 times per week, with a lecture and a problem session taught by one or two instructors. The instructor(s) of each course will teach the 90-minute lecture, and supervise the 90-minute problem sessions following the lecture. Because communication plays an important role in developing problem solving skills, students will be asked to participate actively in the problem sessions, i.e., to ask questions and present and defend solutions. Each student will select two courses, one in the morning and one in the afternoon, based on the following criteria:

- Students personal choices and interests (please see below for course selection tips);
- Students mathematical background and ability as reflected in the personal application, recommendation letters, and achievements on AMC8, AMC10/12, AIME, ARML, USAMO, and AwesomeMath Summer Camp.

When you arrive, we will go over your selections with you to ensure that you are in the courses that suit you best. Switching between courses will be allowed only in exceptional cases and only during the first week. Permission to change will be granted based on the recommendations of the academic teams.

How Students Should Select Courses

Students should complete the course selection survey and contact AwesomeMath staff via email about the course selections as soon as possible. To keep the teaching quality high and ensure individual attention to each student, each class has a maximum size. (Popular courses might have multiple classes, but it is important for us to know this in advance to make such arrangements.) **We grant students course selections, following our guidelines, on a first-come-first-serve basis.**

Course Selection Tips

- Select the areas in which the student is most interested, or in which the student needs the most work.
- Both the content and di!culty of each course are very important. Please read the course descriptions carefully.
- All of our courses are challenging and beyond the scope of regular/accelerated/honor classes in school settings. There is an **entry level** course in each area. Each of these entry level courses will be challenging for most able young minds because these are **contest mathematics** courses. In particular, *Algebra 1.5* is harder than any algebra course (including Algebra 1 and 2) taught in high schools, and *Math Counts with Proofs* is beyond the requirements for the MathCounts competitions (at state and national levels).

Course Selection Guidelines

- *If a student only has MathCounts state level experience, what courses should he/she take?*

  Please choose **two level 1** courses. We recommend a combination of the students strong subject and his/her weak subject.

- *If a students (9th grader or below) AMC10/12 scores are below the qualifying line for AIME, what courses should he/she take?*

  Please choose **two level 1** courses. We recommend a combination of the students strong subject and his/her weak subject.

- *If a students (10th grader or above) AMC10/12 scores are below the qualifying line for AIME, what course should he/she take?*

  Please choose **one level 1** course, with this being the students weak subject, and **one level 2** course, with this being his/her strong subject.

- *If a student has an AIME score between 1 and 3, what courses should he/she take?*

  Please choose either

  (1) **two level 1** courses. We recommend a combination of the students strong subject and his/her weak subject; **OR**

  (2) **one level 1** course, with this being the students weak subject, and **one level 2** course, with this being his/her strong subject.

- *If a student has an AIME score between 4 and 7, what courses should he/she take?* Please choose **two level 2** courses. We recommend a combination of the students strong subject and his/her weak subject.

- *If a student has an AIME score between 8 and 11, what courses should he/she take?*

  Please either

  (1) **two level 2** courses. We recommend a combination of the students strong subject and his/her weak subject; **OR**

  (2) **one level 2** course, with this being the students weak subject, and **one level 3** course, with this being his/her strong subject.

- *If a student has an AIME score of 12 or above, what courses should he/she take?*

  Please choose **two level 3** courses. We recommend a combination of the students strong subject and his/her weak subject.

- *If a students background does not fall into any of the above, what courses should he/she take?*

  Please contact AwesomeMath staff as soon as possible about the students background and interests, and we will make a recommendation promptly.

- *If a students background falls into to the above categories, but he/she wants to choose the courses not following the guidelines, what should he/she do?*

  Please contact AwesomeMath staff via email as soon as possible about the students background and interests, and we will make a recommendation promptly. **If there are still questions about our recommendation, the student might be required to take a placement test in the subjects for which he/she is not following our recommendation.**