Education Plan
A3. Program of Instruction

The curriculum at Tucson AIM Middle School will offer a foundation of academic content knowledge in six primary content areas and will prepare students to enter a high achieving, college preparatory high school. These subjects include the four core content areas of English, mathematics, science, and social studies, as well as PE and the arts. Electives may be offered in addition to the primary subjects. The focus of the curriculum will be rigor, requiring the hard work of students to ensure success.

The school will provide an ambitious curriculum aligned with state academic standards. The students who enroll at Tucson AIM will be provided a structured learning environment to enhance their academic skills. Students with special learning needs will be mainstreamed into the classrooms, while also receiving individual attention to ensure the level of support required to help them succeed.

Since many college-bound students enrolling in science or engineering programs will be required to take calculus as a prerequisite for their majors, we want to adequately prepare our students to accomplish this goal by requiring all eighth graders to take Algebra I. This will set them on the right academic track for advanced math in high school.

Curriculum Framework
State-approved textbooks aligned with the standards provide the content basis for courses of study. Tucson AIM believes that investing in exceptional textbooks will provide an outstanding framework for standards-based instruction. The textbooks, in addition to the highly qualified staff, will be the driving force of the Tucson AIM curriculum.

The following curriculum provides the foundation for Tucson AIM to meet the content standards:

a) <u>English:</u> structured around the state-approved standards (presumably Common Core) for each level, utilizing state-approved curriculum and textbooks

- teach reading and language arts as central to all academic subjects and as a means for obtaining and communicating information.
- teach the fundamentals of spelling and grammar.
- teach students the necessary skills for researching information, taking notes, organizing ideas, developing an outline, using the dictionary, editing and revising.
- teach oral communication skills through group discussions and classroom presentations.
- teach the mechanics of expository writing, creative writing, poetry, journalism, business communication, and scientific writing.

b) <u>Mathematics:</u> structured around the state-approved standards for each level, (presumably Common Core) utilizing state-approved curriculum.

- cover the grade level curricular content specified in standards-aligned textbook program
- teach content and learning experiences in mathematics that allow students to develop the skills, knowledge, and attitudes necessary to meet measurable student outcomes for critical thinking and core academics.
- teach fluency with traditional (abstract) mathematical concepts, statistics, and computation skills.
- teach mathematics with scientific quantification to emphasize the relationships between math, science, and technology.

c) Science: structured around the state-approved standards for each grade level, utilizing state-approved curriculum.

- present an effective science curriculum using the grade level, instructional strategies and assessment guidelines as approved by the Arizona Department of Education
- teach content and learning experiences in science that allow students to develop the skills, knowledge, and attitudes necessary to meet measurable student outcomes for critical thinking and core academics.
- provide a science program that combines the core sciences of biology, physics, and chemistry.
- teach students to use the scientific method to identify a problem and pose relevant questions, state a hypothesis, conduct an experiment, understand the variables, analyze the data, and reach a conclusion or solution that serves as the hypothesis for the next round of inquiry.

d) History and Social Studies: structured around the state-approved standards for each grade level, utilizing state-approved curriculum.

- present an effective history and social-science curriculum using the grade-level considerations, instructional strategies, and assessment guidelines as approved by the Arizona Department of Education
- teach content in history and social science that allows students to develop the skills, knowledge, and attitudes necessary to meet measurable student outcomes for core academics.
- teach students a global perspective of history and social science by studying other nations.
- teach culture of societies, both ancient and modern, through archaeology, anthropology, history, and geography.

f) Visual and Performing Arts: structured around the state standards for each grade level.

- provide an effective visual and performing arts curriculum using the grade-level considerations, the instructional strategies, and assessment guidelines outlined by the Arizona Department of Education.
- teach content and learning experiences in the visual and performing arts that allow students to develop the skills, knowledge, and attitudes necessary to meet the measurable student outcomes for critical thinking and core academics.
- teach content by embedding curriculum in other core classes, promoting project- based learning that encourages a visual and performing arts component, and through after-school arts programs.

g) Physical Education and Health: structured around the state standards for each grade level.

- teach the grade level curricular content specified by the Arizona Department of Education and *Moving into the Future: National Standards for Physical Education: A Guide to Content and Assessment* (National Association for Sport and Physical Education, 1995).
- provide a physical education program that offers both individual and class competitions which may include running, soccer, cross country, and other physical activities that promote fitness, teamwork, and individual abilities.

Revisions to the list of courses offered by the institution will be made based on a continual improvement process that involves analyzing student performance data and educational trends to determine how the curriculum can best meet the needs of the student population and align with the mission of the school.

Materials

The materials used by Tucson AIM's teachers will be selected in accordance with the guidelines and recommendations provided by the Arizona Department of Education and the National Council for Teachers of the six primary subject areas. The materials Tucson AIM will use are necessary to support its rigorous academic program and include: Textbooks, Computers and Projection Devices, Laboratory Science Equipment and Materials, Test Preparation Guides, Instruction-Based Software, The Internet, A Reading Library, Manipulatives, Maps and Atlases, Dictionaries and Thesauruses, Musical Instruments, and Physical Fitness Test Equipment.

Methods of Instruction

At Tucson AIM, we will strive for a teaching approach reflective of our other schools that balances direct teaching of concepts and skills with critical thinking. Below are examples of teaching methods we plan to incorporate into the curriculum:

Direct Instruction, also commonly referred to as explicit or systematic teaching, is a method by which teachers address their students with clear and coherent lessons, which are generally broken down into small steps and deliberately sequenced. After each step, students practice the new skills, often with the guidance of the teacher. The method focuses on explicitly teaching material (i.e. "An exponent is…Here is an example of an exponent…") as well as providing students with ample opportunities to practice the skill and demonstrate understanding. Direct instruction is a teacher-directed, skills-oriented approach that has been highly effective with our students in Oakland. It is also strongly supported by research. For example, one Fordham Foundation report[i] found:

> In only one approach, the Direct Instruction (DI) model, were participating students near or at national norms in math and language and close to national norms in reading. Students in...the other Follow Through approaches — discovery learning, language experience, developmentally appropriate practices, and open education — often performed worse than the control group. This poor performance came in spite of tens of thousands of additional dollars provided for each classroom each year."

In a more generalized sense, teacher-led or lecture-based instruction will also be frequently used that may or may not be specifically termed "direct instruction."

Differentiated Instruction: Teachers will "raise the floor" in their classrooms, teaching to the level of the highest performing students. Differentiation will take place in the classroom, but will be represented primarily by the assistance of lower-performing students who will receive additional instruction outside of regular class time. Students who are not achieving academically will participate in small-group tutoring with their classroom teacher, a resource teacher, or a student tutor.

Student Research Projects and Scientific Inquiry/Experimentation: Students will be required to conduct research for various projects and to present their findings via a written report or oral presentation. In science classes, students will pose questions, formulate hypotheses, and test those hypotheses through experiments.

Pre-AP vertical teaming: Students will develop the critical thinking, problem solving, and reasoning skills necessary to be successful on the Advanced Placement exams they will take as high school students. As opposed to teaching specific facts and dates, during weekly vertical teaming exercises (as well as during regular classes when appropriate), teachers will assess and critique the quality of student thinking and writing through the Socratic method (guided questioning), discussions and debates, and critical-thinking assignments.

MEASURABLE STUDENT OUTCOMES, ASSESSMENTS, & OTHER USES OF DATA

The school's outcomes are designed to align with the school's mission, curriculum and assessments, and the Arizona-approved standards for courses offered at Tucson AIM. Upon graduation from the

school, students will have demonstrated the following, which indicate their ability to be self-motivated, competent life-long learners:

Academic Achievers who:

1. produce quality work across the curriculum
2. are extremely knowledgeable of literature
3. compute and solve advanced math problems
4. are knowledgeable about educational pathways and career choices
5. are equipped with the necessary skills to succeed in high school
6. are also physically fit

Effective Communicators who:

1. demonstrate skills of speaking, listening, reading, and writing in a variety of situations
2. collaborate, work effectively, and manage interpersonal relationships within diverse groups
3. read and respond accurately and analytically to text questions
4. express themselves effectively through writing

Critical Thinkers who:

1. know how to access information and integrate knowledge
2. identify and use resources effectively to gather, communicate, and evaluate information
3. demonstrate the thinking skills of application, analysis, synthesis, and evaluation in a logical manner

Life-long Learners who:

1. are open to discovery and develop an enthusiasm and interest for learning
2. are adaptive to a wide array of professional and cultural settings
3. are goal-oriented, understand the importance of hard work and continual goal setting

Socially Responsible Citizens who:

1. are aware and understand the relevance of different cultures in society
2. are leaders within their families, contribute to the improvement of life in their school and community
3. demonstrate personal responsibility and integrity

Methods of Assessment

Tucson AIM will have a rigorous assessment and goal-setting program to measure students' proficiency levels and ensure that each student is making progress toward mastery. Tucson AIM will assess students regularly from the time they enter the school until graduation, and teachers will monitor their progress closely using varied methods. By teaching and then assessing students with both **formative** and **summative** metrics, teachers will be able to gauge areas in which students need additional help and therefore will schedule time either in the regular classroom or through tutoring or other remediation plans to re-teach the material. Assessment will drive lesson planning. As discussed in section A.3.1, the mastery of core content is shown through an overall performance of 80% or higher, which will be the baseline goal for each student. The 80% benchmark could take the form of a "B-" or better grade on classroom tests, assignments, and report card grades, for example, or it could be shown by a score of 80% or higher on standards-aligned diagnostic tests and/or through a passing or higher score on AIMS.

Tucson AIM will use **formative assessments** on a daily basis. Teachers will adjust their instructional approach during a lesson and in subsequent lessons based on observation and student feedback. Formative assessments may take the form of teacher observations, questioning strategies, self and peer assessment, holding up answers on mini white boards, exit tickets, doing board work in front of the teacher, brainstorming ideas, student read-alouds, and descriptive feedback (such as telling students what they are doing well and why). Formative assessments will provide teachers with an

opportunity to monitor student progression/mastery and allow teachers to make immediate changes regarding the management of the classroom and instructional approach and pace. (For example, a teacher might decide to reteach a concept if he/she observes that students do not understand it well.) It also allows students to communicate their questions and ideas to teachers. Formative assessments provide a fluid, immediate means of tracking real-time mastery of the content and adjusting accordingly.

Summative assessments provide objective data by which to gauge whether students are demonstrating progression toward or mastery of the curricular content. Here are examples of **summative assessments** that will be used at Tucson AIM:

Annually

- Arizona's Instrument to Measure Standards (AIMS) Exams
- Arizona English Language Learner Assessments (AZELLA)
- Cumulative Final or Diagnostic Exams

Each Quarter

- End-of-unit exams, projects, and essays
- Diagnostic or benchmark exams that assess how well the student is mastering the standards
- Individual Education Plan (IEP) reviews

Ongoing

- Quizzes and tests
- Daily homework
- Graded class work
- Essays
- Group and individual projects/presentations
- Lab reports

School staff will closely monitor students' academic achievement through the formative and summative metrics mentioned above and below so that students who enter the school with below-passing AIMS scores or who do not demonstrate sufficient mastery of the standards-based content in English, math, social studies, and science can be placed in tutoring and/or given other remediation plans, such as additional assignments, building of study skills, an attendance plan, etc., as deemed necessary and appropriate. Through interventions and ongoing assessments, every effort will be made to help students improve their academic standing.

Students will also be measured in non-curricular areas such as class attendance and discipline to ensure they are performing at the level stated in the school's mission statement. For example, classes will compete with each other for the greatest number of consecutive days of perfect attendance. Non-curricular areas are often overlooked at urban middle schools; we believe that students develop more quickly when they are held accountable for both attendance and performance.

Student assessment data will be used to refine and improve the educational program. Faculty and staff will devote substantial time throughout the year to analyzing the data and will propose changes to the educational program based upon their findings. Regarding assessment and curriculum, Tucson AIM will do the following:

- Set measurable standards: Staff will identify what students should know (content standards) and what they should be able to do (performance standards) in all learning areas. Staff will generate specific academic outcomes for each subject area by grade level.

- Link standards to curriculum and assessment: Standards, curriculum, and assessment will be aligned with each other, with state guidelines, and with Tucson AIM's educational goals. Professional development will include training in the use of data-driven decision making, and educators will review the alignment of assessment and curriculum with the state content standards each year.

- Determine assessments that will measure student progress toward or mastery of grade-level curriculum: Progress will be objectively measured by AIMS, other standards-based diagnostic/benchmark exams, as well through classroom performance on quizzes, essays, end-of-unit tests, etc.

- Setting baseline expectations for incoming students: Using AIMS results, IEPs, and previous student records to create learning plans with goals for each student. This may include remediation plans, such as tutoring.

- Implementing school-level indicators of success: Adequate Yearly Progress (AYP) and student dropout, graduation, and attendance rates will be used to monitor school-wide achievement.

- Monitoring individual student progress to ensure students are making academic progress on the state content standards of each grade level before being advanced to the next grade. Student progress reports will be sent to families every three weeks for students who receive a C- or lower in any subject. The students who receive progress reports for low academic performance may participate in conferences with their family representative and teacher to identify appropriate strategies for improvement.

Additionally, Tucson AIM will be held accountable for student achievement via:

1. Arizona's Instrument to Measure Standards (AIMS) yearly results:
    A. At least 65% of students will test proficient in reading by the end of Year One (based on predicted baseline of 55% proficiency for 2011-2012)
    B. At least 75% of students will test proficient in reading by the end of Year Two (based on predicted baseline of 55% proficiency for 2011-2012)
    C. At least 50% of students will test proficient in math by the end of Year One (based on predicted baseline of 35% proficiency for 2011-2012)
    D. At least 65% of students will test proficient or advanced in math by the end of Year Two (based on predicted baseline of 35% proficiency for 2011-2012)

E. **Note**: Our predicted baselines are based on the performance data from middle schools near our planned campus and on the low proficiency rate of Arizona Limited English Proficient and other minority students. Because we expect to enroll students who are non-native English speakers and from minority and other subgroups whose test performance results are significantly below the state average, we are making conservative estimates about the academic performance of our first incoming class. Furthermore, as AIPCS's performance data has shown on p. 12 of Educational Philosophy, we plan to make steady, attainable progress year after year.

2. Attendance Rate: The school's rate of attendance will exceed 95% each year.
3. Meeting or exceeding federal NCLB standards based on the annually established Annual Yearly Progress (AYP) criteria or targets, including minimum participation rates, statewide testing, and minimum proficiency rates by students in English language arts and mathematics.

Tucson AIM will incorporate the content standards for Arizona schools in the curriculum. Tucson AIM will update to all amended standards, whether Common Core or any other Arizona-mandated standards, and will continue to incorporate them into the curriculum to enhance student performance.

[i] Carnine, D. (2000). Why education experts resist effective practices (and what it would take to make education more like medicine). Thomas B. Fordham Foundation report of April 2000.