



# PROGRAMMING & SOFTWARE DEVELOPMENT

The Programming & Software Development program of study explores the occupations & education opportunities associated with researching, designing, developing and testing operating system-level software, compilers and network distribution software for medical, industrial, military, communications, aerospace, business, scientific and general computer applications.

| LEVELS  | COURSES  |  |  |
|---------|--|--|--|
| Level 1 | No courses offered at Level 1 in this program of study   |  |  |
| Level 2 | <b>AP Computer Science Principles</b><br>1266CT / 9-12<br><b>Weighted &amp; LOTE Credit</b>  | <b>Computer Science I (PLTW)</b><br>1050CT / 9-12<br><i>Prerequisite: Algebra I</i><br><b>LOTE Credit</b>    |  |
| Level 3 | <b>AP Computer Science A – Math/LOTE</b><br>1055CA - CB / 10-12<br><i>Prerequisite: AP Computer Science Principles</i><br><b>Weighted Credit</b><br><b>1 Credit in Math</b><br><b>1 Credit in LOTE</b>                           | <b>Computer Science II</b><br>1051CT / 9-12<br><i>Prerequisite: Computer Science I</i><br><b>LOTE Credit</b> | <b>Mobile Applications Development</b><br>1052CT / 9-12<br><i>Prerequisite: Algebra I AND Computer Science I</i> |
| Level 4 | <b>Practicum in Information Technology</b><br>1851CA-CB / 11-12<br><i>Prerequisite: 2 courses in Information Technology OR STEM AND Selection Process</i><br><b>+ Oracle Certified Database Associate Certification Possible</b> |  |  |

|                        |                        |                       |                       |
|------------------------|------------------------|-----------------------|-----------------------|
| 1 Semester Home Campus | 2 Semester Home Campus | 1 Semester Ben Barber | 2 Semester Ben Barber |
|------------------------|------------------------|-----------------------|-----------------------|

| OCCUPATION                 | MEDIAN WAGE | ANNUAL OPENINGS | % GROWTH |
|----------------------------|-------------|-----------------|----------|
| Computer Network Architect | \$111,633   | 1,454           | 9%       |
| Industrial Engineer        | \$103,334   | 2,985           | 25%      |

## INDUSTRY BASED CERTIFICATIONS

**+ Oracle Certified Database Associate Certification** - Practicum in Information Technology

This certification exam measures the following objectives: using basic select statements, definite table joins, defining select statements, using single-row function to customize output, using conversion function & conditional expressions, etc.

*The district will pay 100% of the cost of the certification test if students can show mastery by passing a certification practice test AND maintain an 80+ overall course grade at the time of the certification test. If students don't meet the requirements above, they must pay 100% of the cost of the certification test.*

Students must have successfully completed a level 1 or 2 course AND a level 3 or 4 to take a practicum course.

To earn a CTE endorsement, an MISD student must take 4 or more credits in the same endorsement area, with at least 2 of 4 credits within the same program of study and must include at least one Level 3 or Level 4 CTE course.