INDIANA AREA SCHOOL DISTRICT
INDIANA, PA
Secondary

Course Title: Explorations in Computer Science

Grade Level: Grades 9-12

Course Number: 347

Core or Elective: Elective

Periods Per Week: Five

Length of Time: 39-Minutes Per Class Period

Length of Course: One semester

Units of Credit: One-half Credit

Created on: October 24, 2018

Revised: _____

Revised: _____

Revised: _____

NCAA Core Course Approved

IDEAL Course

Board Approval Date:_____

Course Description

This course is a first course in computer science and introduces students to computer science and the correct ways to design and write computer programs using Visual Basic. The goal is to provide an introductory-level course in computer programming for students with no previous programming experience. The concepts covered in the course include: an introduction to computer science and computer programming, program and graphical user interface design, program design and coding, variables and arithmetic operations, decision structures, and loop structures. It gives a foundation in the tools used in computer science and prepares students for further study in computer science, including the Computer Programming and Coding I and II courses and the AP Computer Science course. Students taking this course must have completed Algebra I.

Expected Level of Achievements (District Grading Scale)

A (4):	**93% - 100%**
B (3):	**85% - 92%**
C (2):	**77% - 84%**
D (1):	**69% - 76%**
F (0):	**68% and below**

Academic/Content Standards/ Benchmarks

(Standards met in this course – standards specific to each unit are listed with each unit)

PDE BCIT & Mathematics Standards:

15.4.12.A: Apply the creative and productive use of emerging technologies for educational and personal success.
15.4.12.H: Use programming languages to develop logical thinking and problem solving skills.
15.4.12.I: Compare and contrast programming languages; select most appropriate one to complete a specific task.
15.4.12.J: Create a complex computer program to solve a problem.
02.5.11.A: Develop a plan to analyze a problem, identify the information needed to solve the problem, carry out the plan, check whether an answer makes sense, and explain how the problem was solved in grade appropriate contexts.

PDE Computer Science Standards:

3A-CS-01: Explain how abstractions hide the underlying implementation details of computing systems embedded in everyday objects.
3A-CS-02: Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-13: Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.
3A-AP-14: Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-15: Justify the selection of specific control structures when tradeoffs involve implementation, readability, and program performance, and explain the benefits and drawbacks of choices made.
3A-AP-17: Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-18: Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs.
3A-AP-19: Systematically design and develop programs for broad audiences by incorporating feedback from users.
3A-AP-21: Evaluate and refine computational artifacts to make them more usable and accessible.
3A-AP-22: Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-23: Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
3B-AP-10: Use and adapt classic algorithms to solve computational problems.
3B-AP-11: Evaluate algorithms in terms of their efficiency, correctness, and clarity.
3B-AP-12: Compare and contrast fundamental data structures and their uses.

National Business Education Association Standards:

NBEA Computation Standards:

I. Mathematical Foundations: Apply basic mathematical operations to solve problems.
II. Number Relationships and Operations: Solve problems involving whole numbers, decimals, fractions, percents, ratios, averages, and proportions.
III. Patterns, Functions, and Algebra: Use algebraic operations to solve problems.
IV. Measurements: Use common international standards of measurement when solving problems.
V. Statistics and Probability: Analyze and interpret data using common statistical procedures.
VI. Problem-Solving Applications: Use mathematical procedures to analyze and solve business problems.

NBEA Information Technology Standards:

XI. Programming and Application Development: Design, develop, test, and implement programs.
XII. Telecommunications and Networking Infrastructures: Develop the skills to design, deploy, and administer networks and telecommunications systems.

Subject Area: Computer Science **Course Title: Explorations in Computer Science**

Grade: 9-12 **Strand: Intro to Computer Science and Programming** **Time: 2 Weeks**

Academic/Content Standards/ Benchmarks	Objectives The student will:	Instructional Strategies	Assessment Strategies
PDE BCIT & Mathematics Standards: 15.4.12.A 15.4.12.H 15.4.12.I PDE Computer Science Standards: 3A-CS-01 3A-CS-02 National Business Education Association Standards: NBEA Computation Standards: I, II, III, IV, V, and VI NBEA Information Technology Standards: XI and XII	▪ Understand software and computer programs ▪ State the role of a developer in creating computer programs ▪ Specify the use of a graphical user interface and describe an event-driven program ▪ Specify the roles of input, processing, output, and data when running a program on a computer ▪ Describe the arithmetic operations a computer program can perform ▪ Explain the logical operations a computer program can perform ▪ Define and describe the use of a database ▪ Identify the use of a computer programming language in general, and Visual Basic in particular ▪ Explain the use of an IDE ▪ Explain RAD ▪ Describe classes, objects, and class libraries ▪ Explain MSIL and CLR	▪ Audio-visual Presentation ▪ Board Work ▪ Brainstorming ▪ Class Discussion ▪ Computer-based instruction ▪ Cooperative Learning ▪ Demonstrations ▪ Differentiated Instruction ▪ Graphic Organizer ▪ Hands-on Computer Activities ▪ Independent Reading/Study ▪ Lecture ▪ Peer Collaboration ▪ Peer Tutoring ▪ Performance-based Learning ▪ Question and Answer ▪ Role Playing ▪ Teacher Modeling ▪ Web-based/Online Learning	▪ Active Daily Participation ▪ Formative Assessments ▪ Homework Assignments ▪ Independent Study ▪ Performance-based Assessments ▪ Portfolio ▪ Projects ▪ Real world projects ▪ Rubrics ▪ Student Self-reflection ▪ Teacher Observations ▪ Teacher-made Assessments ▪ Tests/Quizzes ▪ Web-based Projects/Assignments

(over)

Materials/Resources	**Reteaching** Strategies include:	**Enrichment** Enrichment options include:
▪ Bulletin Boards ▪ Computers ▪ Course Resources: starter files ▪ Textbook – *Microsoft Visual Basic: Comprehensive, Hoisington* ▪ Visual Basic IDE (Visual Studio) ▪ Google Classroom ▪ Google Suite ▪ Internet ▪ Lab facilities ▪ Promethean Board ▪ Student and Teacher Forums (Piazza; online) ▪ Supplemental textbooks ▪ Teacher-made Materials ▪ White Boards and Markers	▪ Additional Time ▪ Alternate activity/instruction ▪ Cooperative learning activity/Peer Tutoring ▪ Graphic organizer ▪ Modified assignment ▪ Modified environment ▪ Modified expectations ▪ Note-taking practice ▪ One-on-one Instruction ▪ Online Videos/Tutorials ▪ Positive reinforcement ▪ Practice assignment ▪ Preferential Seating ▪ Study skills tutorial ▪ Supplemental reading assignment ▪ Testing modifications ▪ Verbal cue ▪ Visual cue	▪ Accelerated assignment schedule ▪ Alternate activity/instruction ▪ Computer/online software-based activity ▪ Cooperative learning activity ▪ Enrichment Assignments ▪ High Expectations ▪ Modified assignment ▪ Participation in software design competition(s) ▪ Positive reinforcement ▪ Project ▪ Seminar discussion ▪ Supplemental reading assignment

Subject Area: Computer Science **Course Title: Explorations in Computer Science**

Grade: 9-12 **Strand: Program & Graphical User Interface Design** **Time: 2 Weeks**

Academic/Content Standards/ Benchmarks	Objectives The student will:	Instructional Strategies	Assessment Strategies
PDE BCIT & Mathematics Standards: 15.4.12.A 15.4.12.H 15.4.12.I 2.5.11.A PDE Computer Science Standards: 3A-CS-01 3A-CS-02 3A-AP-13 3A-AP-15 3A-AP-17 3A-AP-18 National Business Education Association Standards: NBEA Computation Standards: I, II, III, IV, V, and VI NBEA Information Technology Standards: XI and XII	▪ Create a Visual Basic Windows Application project ▪ Name and set the title bar text in a Windows Form object; resize a Windows Form object ▪ Add a Label object to a Windows Form object; name the Label object; set the text in the Label object; change the Font properties of the text in the Label object ▪ Add a PictureBox object to the Windows Form object; name the PictureBox object; resize the PictureBox object ▪ Add a Button object to the Windows Form object; name the Button object; set the text in the Button object; change the Button object's size ▪ Align objects on the Windows Form object ▪ Save and open Visual Basic projects ▪ Understand and implement design principles of the graphical user interface ▪ Understand and implement the first two phases of the program development life cycle	▪ Audio-visual Presentation ▪ Board Work ▪ Brainstorming ▪ Class Discussion ▪ Computer-based instruction ▪ Cooperative Learning ▪ Demonstrations ▪ Differentiated Instruction ▪ Graphic Organizer ▪ Hands-on Computer Activities ▪ Independent Reading/Study ▪ Lecture ▪ Peer Collaboration ▪ Peer Tutoring ▪ Performance-based Learning ▪ Question and Answer ▪ Role Playing ▪ Teacher Modeling ▪ Web-based/Online Learning	▪ Active Daily Participation ▪ Formative Assessments ▪ Homework Assignments ▪ Independent Study ▪ Performance-based Assessments ▪ Portfolio ▪ Projects ▪ Real world projects ▪ Rubrics ▪ Student Self-reflection ▪ Teacher Observations ▪ Teacher-made Assessments ▪ Tests/Quizzes ▪ Web-based Projects/Assignments

(over)

Materials/Resources	**Reteaching** Strategies include:	**Enrichment** Enrichment options include:
▪ Bulletin Boards ▪ Computers ▪ Course Resources: starter files ▪ Textbook – *Microsoft Visual Basic: Comprehensive, Hoisington* ▪ Visual Basic IDE (Visual Studio) ▪ Google Classroom ▪ Google Suite ▪ Internet ▪ Lab facilities ▪ Promethean Board ▪ Student and Teacher Forums (Piazza; online) ▪ Supplemental textbooks ▪ Teacher-made Materials ▪ White Boards and Markers	▪ Additional Time ▪ Alternate activity/instruction ▪ Cooperative learning activity/Peer Tutoring ▪ Graphic organizer ▪ Modified assignment ▪ Modified environment ▪ Modified expectations ▪ Note-taking practice ▪ One-on-one Instruction ▪ Online Videos/Tutorials ▪ Positive reinforcement ▪ Practice assignment ▪ Preferential Seating ▪ Study skills tutorial ▪ Supplemental reading assignment ▪ Testing modifications ▪ Verbal cue ▪ Visual cue	▪ Accelerated assignment schedule ▪ Alternate activity/instruction ▪ Computer/online software-based activity ▪ Cooperative learning activity ▪ Enrichment Assignments ▪ High Expectations ▪ Modified assignment ▪ Participation in software design competition(s) ▪ Positive reinforcement ▪ Project ▪ Seminar discussion ▪ Supplemental reading assignment

Subject Area: Computer Science **Course Title: Explorations in Computer Science**

Grade: 9-12 **Strand: Program Design and Coding** **Time: 3 Weeks**

Academic/Content Standards/ Benchmarks	Objectives The student will:	Instructional Strategies	Assessment Strategies
PDE BCIT & Mathematics Standards: 15.4.12.A 15.4.12.H 15.4.12.I 15.4.12.J 2.5.11.A PDE Computer Science Standards: 3A-AP-13 3A-AP-14 3A-AP-15 3A-AP-17 3A-AP-18 3A-AP-19 3A-AP-21 3A-AP-22 3A-AP-23 3B-AP-10 3B-AP-11 3B-AP-12 National Business Education Association Standards: NBEA Computation Standards: I, II, III, IV, V, and VI NBEA Information Technology Standards: XI and XII	▪ Change the color properties of an object ▪ Add images to a PictureBox object ▪ Save and import an image into the Program Resources folder ▪ Size an image ▪ Set the Visible property in the Properties window ▪ Set the Enabled property in the Properties window ▪ Run a Visual Basic program ▪ Enter Visual Basic code ▪ Understand Visual Basic code statement formats ▪ Use IntelliSense to enter Visual Basic code statements ▪ Use code to set the Visible property of an object ▪ Use code to set the Enabled property of an object ▪ Enter comments in Visual Basic code ▪ Correct errors in Visual Basic code ▪ Write code to use the Close() procedure ▪ Print code ▪ Prepare an event planning document	▪ Audio-visual Presentation ▪ Board Work ▪ Brainstorming ▪ Class Discussion ▪ Computer-based instruction ▪ Cooperative Learning ▪ Demonstrations ▪ Differentiated Instruction ▪ Graphic Organizer ▪ Hands-on Computer Activities ▪ Independent Reading/Study ▪ Lecture ▪ Peer Collaboration ▪ Peer Tutoring ▪ Performance-based Learning ▪ Question and Answer ▪ Role Playing ▪ Teacher Modeling ▪ Web-based/Online Learning	▪ Active Daily Participation ▪ Formative Assessments ▪ Homework Assignments ▪ Independent Study ▪ Performance-based Assessments ▪ Portfolio ▪ Projects ▪ Real world projects ▪ Rubrics ▪ Student Self-reflection ▪ Teacher Observations ▪ Teacher-made Assessments ▪ Tests/Quizzes ▪ Web-based Projects/Assignments

(over)

Materials/Resources	**Reteaching** Strategies include:	**Enrichment** Enrichment options include:
▪ Bulletin Boards ▪ Computers ▪ Course Resources: starter files ▪ Textbook – *Microsoft Visual Basic: Comprehensive, Hoisington* ▪ Visual Basic IDE (Visual Studio) ▪ Google Classroom ▪ Google Suite ▪ Internet ▪ Lab facilities ▪ Promethean Board ▪ Student and Teacher Forums (Piazza; online) ▪ Supplemental textbooks ▪ Teacher-made Materials ▪ White Boards and Markers	▪ Additional Time ▪ Alternate activity/instruction ▪ Cooperative learning activity/Peer Tutoring ▪ Graphic organizer ▪ Modified assignment ▪ Modified environment ▪ Modified expectations ▪ Note-taking practice ▪ One-on-one Instruction ▪ Online Videos/Tutorials ▪ Positive reinforcement ▪ Practice assignment ▪ Preferential Seating ▪ Study skills tutorial ▪ Supplemental reading assignment ▪ Testing modifications ▪ Verbal cue ▪ Visual cue	▪ Accelerated assignment schedule ▪ Alternate activity/instruction ▪ Computer/online software-based activity ▪ Cooperative learning activity ▪ Enrichment Assignments ▪ High Expectations ▪ Modified assignment ▪ Participation in software design competition(s) ▪ Positive reinforcement ▪ Project ▪ Seminar discussion ▪ Supplemental reading assignment

Subject Area: Computer Science **Course Title: Explorations in Computer Science**

Grade: 9-12 **Strand: Variables and Arithmetic Operations** **Time: 4 Weeks**

Academic/Content Standards/ Benchmarks	Objectives The student will:	Instructional Strategies	Assessment Strategies
PDE BCIT & Mathematics Standards: 15.4.12.A 15.4.12.H 15.4.12.I 15.4.12.J 2.5.11.A PDE Computer Science Standards: 3A-AP-13 3A-AP-14 3A-AP-15 3A-AP-17 3A-AP-18 3A-AP-19 3A-AP-21 3A-AP-22 3A-AP-23 3B-AP-10 3B-AP-11 3B-AP-12 National Business Education Association Standards: NBEA Computation Standards: I, II, III, IV, V, and VI NBEA Information Technology Standards: XI and XII	▪ Create, modify, and program a TextBox object ▪ Use code to place data in the Text property of a Label object ▪ Use the AcceptButton and CancelButton properties ▪ Understand and declare String and Numeric variables ▪ Use assignment statements to place data in variables ▪ Use literals and constants in coding statements ▪ Understand scope rules for variables ▪ Convert string and numeric data ▪ Understand and use arithmetic operators and arithmetic operations ▪ Format and display numeric data as a string ▪ Create a form load event ▪ Create a concatenated string ▪ Debug a program	▪ Audio-visual Presentation ▪ Board Work ▪ Brainstorming ▪ Class Discussion ▪ Computer-based instruction ▪ Cooperative Learning ▪ Demonstrations ▪ Differentiated Instruction ▪ Graphic Organizer ▪ Hands-on Computer Activities ▪ Independent Reading/Study ▪ Lecture ▪ Peer Collaboration ▪ Peer Tutoring ▪ Performance-based Learning ▪ Question and Answer ▪ Role Playing ▪ Teacher Modeling ▪ Web-based/Online Learning	▪ Active Daily Participation ▪ Formative Assessments ▪ Homework Assignments ▪ Independent Study ▪ Performance-based Assessments ▪ Portfolio ▪ Projects ▪ Real world projects ▪ Rubrics ▪ Student Self-reflection ▪ Teacher Observations ▪ Teacher-made Assessments ▪ Tests/Quizzes ▪ Web-based Projects/Assignments

(over)

Materials/Resources	**Reteaching** Strategies include:	**Enrichment** Enrichment options include:
▪ Bulletin Boards ▪ Computers ▪ Course Resources: starter files ▪ Textbook – *Microsoft Visual Basic: Comprehensive, Hoisington* ▪ Visual Basic IDE (Visual Studio) ▪ Google Classroom ▪ Google Suite ▪ Internet ▪ Lab facilities ▪ Promethean Board ▪ Student and Teacher Forums (Piazza; online) ▪ Supplemental textbooks ▪ Teacher-made Materials ▪ White Boards and Markers	▪ Additional Time ▪ Alternate activity/instruction ▪ Cooperative learning activity/Peer Tutoring ▪ Graphic organizer ▪ Modified assignment ▪ Modified environment ▪ Modified expectations ▪ Note-taking practice ▪ One-on-one Instruction ▪ Online Videos/Tutorials ▪ Positive reinforcement ▪ Practice assignment ▪ Preferential Seating ▪ Study skills tutorial ▪ Supplemental reading assignment ▪ Testing modifications ▪ Verbal cue ▪ Visual cue	▪ Accelerated assignment schedule ▪ Alternate activity/instruction ▪ Computer/online software-based activity ▪ Cooperative learning activity ▪ Enrichment Assignments ▪ High Expectations ▪ Modified assignment ▪ Participation in software design competition(s) ▪ Positive reinforcement ▪ Project ▪ Seminar discussion ▪ Supplemental reading assignment

Subject Area: Computer Science **Course Title: Explorations in Computer Science**

Grade: 9-12 **Strand: Decision Structures** **Time: 4 Weeks**

Academic/Content Standards/ Benchmarks	Objectives The student will:	Instructional Strategies	Assessment Strategies
PDE BCIT & Mathematics Standards: 15.4.12.A 15.4.12.H 15.4.12.I 15.4.12.J 2.5.11.A PDE Computer Science Standards: 3A-AP-13 3A-AP-14 3A-AP-15 3A-AP-17 3A-AP-18 3A-AP-19 3A-AP-21 3A-AP-22 3A-AP-23 3B-AP-10 3B-AP-11 3B-AP-12 National Business Education Association Standards: NBEA Computation Standards: I, II, III, IV, V, and VI NBEA Information Technology Standards: XI and XII	▪ Use the GroupBox object ▪ Place RadioButton objects in applications ▪ Display a message box ▪ Make decisions using If…Then statements ▪ Make decisions using If…Then…Else statements ▪ Make decisions using nested If statements ▪ Make decisions using logical operators ▪ Make decisions using Case statements ▪ Insert code snippets ▪ Test input to ensure a value is numeric	▪ Audio-visual Presentation ▪ Board Work ▪ Brainstorming ▪ Class Discussion ▪ Computer-based instruction ▪ Cooperative Learning ▪ Demonstrations ▪ Differentiated Instruction ▪ Graphic Organizer ▪ Hands-on Computer Activities ▪ Independent Reading/Study ▪ Lecture ▪ Peer Collaboration ▪ Peer Tutoring ▪ Performance-based Learning ▪ Question and Answer ▪ Role Playing ▪ Teacher Modeling ▪ Web-based/Online Learning	▪ Active Daily Participation ▪ Formative Assessments ▪ Homework Assignments ▪ Independent Study ▪ Performance-based Assessments ▪ Portfolio ▪ Projects ▪ Real world projects ▪ Rubrics ▪ Student Self-reflection ▪ Teacher Observations ▪ Teacher-made Assessments ▪ Tests/Quizzes ▪ Web-based Projects/Assignments

(over)

Materials/Resources	**Reteaching** Strategies include:	**Enrichment** Enrichment options include:
▪ Bulletin Boards ▪ Computers ▪ Course Resources: starter files ▪ Textbook – *Microsoft Visual Basic: Comprehensive, Hoisington* ▪ Visual Basic IDE (Visual Studio) ▪ Google Classroom ▪ Google Suite ▪ Internet ▪ Lab facilities ▪ Promethean Board ▪ Student and Teacher Forums (Piazza; online) ▪ Supplemental textbooks ▪ Teacher-made Materials ▪ White Boards and Markers	▪ Additional Time ▪ Alternate activity/instruction ▪ Cooperative learning activity/Peer Tutoring ▪ Graphic organizer ▪ Modified assignment ▪ Modified environment ▪ Modified expectations ▪ Note-taking practice ▪ One-on-one Instruction ▪ Online Videos/Tutorials ▪ Positive reinforcement ▪ Practice assignment ▪ Preferential Seating ▪ Study skills tutorial ▪ Supplemental reading assignment ▪ Testing modifications ▪ Verbal cue ▪ Visual cue	▪ Accelerated assignment schedule ▪ Alternate activity/instruction ▪ Computer/online software-based activity ▪ Cooperative learning activity ▪ Enrichment Assignments ▪ High Expectations ▪ Modified assignment ▪ Participation in software design competition(s) ▪ Positive reinforcement ▪ Project ▪ Seminar discussion ▪ Supplemental reading assignment

Subject Area: Computer Science **Course Title: Explorations in Computer Science**

Grade: 9-12 **Strand: Loop Structures** **Time: 3 Weeks**

Academic/Content Standards/ Benchmarks	Objectives The student will:	Instructional Strategies	Assessment Strategies
PDE BCIT & Mathematics Standards: 15.4.12.A 15.4.12.H 15.4.12.I 15.4.12.J 2.5.11.A PDE Computer Science Standards: 3A-AP-13 3A-AP-14 3A-AP-15 3A-AP-17 3A-AP-18 3A-AP-19 3A-AP-21 3A-AP-22 3A-AP-23 3B-AP-10 3B-AP-11 3B-AP-12 National Business Education Association Standards: NBEA Computation Standards: I, II, III, IV, V, and VI NBEA Information Technology Standards: XI and XII	▪ Add a MenuStrip object ▪ Use the InputBox function ▪ Display data using the ListBox object ▪ Understand the use of counters and accumulators ▪ Understand the use of compound operators ▪ Repeat a process using a For...Next loop ▪ Repeat a process using a Do loop ▪ Avoid infinite loops ▪ Prime a loop ▪ Validate data ▪ Create a nested loop ▪ Select the best type of loop ▪ Debug using DataTips at breakpoints ▪ Publish a finished application using ClickOnce technology	▪ Audio-visual Presentation ▪ Board Work ▪ Brainstorming ▪ Class Discussion ▪ Computer-based instruction ▪ Cooperative Learning ▪ Demonstrations ▪ Differentiated Instruction ▪ Graphic Organizer ▪ Hands-on Computer Activities ▪ Independent Reading/Study ▪ Lecture ▪ Peer Collaboration ▪ Peer Tutoring ▪ Performance-based Learning ▪ Question and Answer ▪ Role Playing ▪ Teacher Modeling ▪ Web-based/Online Learning	▪ Active Daily Participation ▪ Formative Assessments ▪ Homework Assignments ▪ Independent Study ▪ Performance-based Assessments ▪ Portfolio ▪ Projects ▪ Real world projects ▪ Rubrics ▪ Student Self-reflection ▪ Teacher Observations ▪ Teacher-made Assessments ▪ Tests/Quizzes ▪ Web-based Projects/Assignments

(over)

Materials/Resources	**Reteaching** Strategies include:	**Enrichment** Enrichment options include:
▪ Bulletin Boards ▪ Computers ▪ Course Resources: starter files ▪ Textbook – *Microsoft Visual Basic: Comprehensive, Hoisington* ▪ Visual Basic IDE (Visual Studio) ▪ Google Classroom ▪ Google Suite ▪ Internet ▪ Lab facilities ▪ Promethean Board ▪ Student and Teacher Forums (Piazza; online) ▪ Supplemental textbooks ▪ Teacher-made Materials ▪ White Boards and Markers	▪ Additional Time ▪ Alternate activity/instruction ▪ Cooperative learning activity/Peer Tutoring ▪ Graphic organizer ▪ Modified assignment ▪ Modified environment ▪ Modified expectations ▪ Note-taking practice ▪ One-on-one Instruction ▪ Online Videos/Tutorials ▪ Positive reinforcement ▪ Practice assignment ▪ Preferential Seating ▪ Study skills tutorial ▪ Supplemental reading assignment ▪ Testing modifications ▪ Verbal cue ▪ Visual cue	▪ Accelerated assignment schedule ▪ Alternate activity/instruction ▪ Computer/online software-based activity ▪ Cooperative learning activity ▪ Enrichment Assignments ▪ High Expectations ▪ Modified assignment ▪ Participation in software design competition(s) ▪ Positive reinforcement ▪ Project ▪ Seminar discussion ▪ Supplemental reading assignment