TEC625 How to Fix Just About Anything
An Applied Technology Course Outline
(formerly Residential Technology)
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STATEMENT OF PURPOSE

How To Fix Just About Anything is an introductory full-year course at the high school level that provides the students with information, procedures, and experiences related to the construction industry. The students will learn all aspects of construction including site layouts, foundations, framing, roofing, windows, doors, exterior finishes, interior walls, floors and ceilings, electrical wiring and plumbing.

The course of study is arranged in a logical sequence in the order in which the various phases of building would be performed. Specific information about building materials including size, grade description, new resources and technical information will be addressed. Physical properties and other important characteristics will be investigated as well.

The students will complete a variety of tasks, the most significant of which will be to work collaboratively to build a structure that is designed to mimic the construction and finishing work for an actual home. All work will be closely monitored and carefully supervised to maximize student learning and understanding, while providing a safe working environment in which to complete each task.

Separately we assess students to gauge progress and inform instruction. Benchmark assessments for students in grades 9 through 12 are administered in the form of a midterm and final exam for full year courses. *Special Note: Only final exams are administered at the end of quarter courses and semester.

RATIONALE

The construction industry is one of the biggest sectors of our economy, and learning its numerous nuances and processes provides the students with a wealth of practical knowledge that can be utilized throughout their lives. This program provides the students with an opportunity for career exploration in the construction field, as well as the related trades.

The How To Fix Just About Anything Curriculum is comprehensive and detailed in its approach, and it closely aligns with the New Jersey Student Learning Standards (NJSLS) for 21st Century Life and Careers, New Jersey Student Learning Standards (NJSLS) 21st Century Career Ready Practices, and the New Jersey Student Learning Standards (NJSLS) for Technology.
THE LIVING CURRICULUM

Curriculum guides are designed to be working documents. Teachers are encouraged to make notes in the margins. Written comments can serve as the basis for future revisions. In addition, the teachers and administrators are invited to discuss elements of the guides as implemented in the classroom and to work collaboratively to develop recommendations for curriculum reforms as needed.

AFFIRMATIVE ACTION

During the development of this course of study, particular attention was paid to material, which might discriminate on the basis of sex, race, religion, national origin, or creed. Every effort has been made to uphold both the letter and spirit of affirmative action mandates as applied to the content, the texts and the instruction inherent in this course.

MODIFICATIONS AND ADAPTATIONS

For guidelines on how to modify and adapt curricula to best meet the needs of all students, instructional staff should refer to the Curriculum Modifications and Adaptations included as an Appendix in this curriculum. Instructional staff of students with Individualized Education Plans (IEPs) must adhere to the recommended modifications outlined in each individual plan.
GENERAL GOALS

Throughout the phases of the course, the students will:

- examine the construction industry and explore the types of careers available as well as the training required.
- explain the design process, including designing for aesthetics and designing for function.
- explore drafting and computer-aided drafting connections in order to be able to read basic drawings.
- understand safety, zone and town requirements and be able to prepare construction contracts and estimates.
- safely perform operations with each of the power and hand tools in the shop.
- build an in-class model from foundation to interior finishing requirements.
- explain the major design considerations for the construction of a building foundation.

Specific concepts and tools are taught as required for each project. This ensures a logical progression of knowledge and skill throughout the course.
PARSIPPANY-TROY HILLS TOWNSHIP SCHOOLS

COURSE PROFICIENCIES

Course: TEC625

Title: HOW TO FIX JUST ABOUT ANYTHING

In accordance with district policy as mandated by the New Jersey Administrative Code and the New Jersey Student Learning Standards the following are proficiencies required for the successful completion of the above named course.

The student will:

1. identify and describe the proper clothing and personal habits and safety equipment for use by carpenters in the shop.
2. differentiate the three classes of fires, how to properly extinguish them and how to store flammable liquids.
3. use mathematical skills and reasoning while solving construction problems.
4. identify hardwoods and softwoods.
5. describe wood characteristics, both positive and negative.
6. explain the differences between plywood, hardwood, and particle board.
7. identify the common types and parts of hand tools.
8. demonstrate the proper selection and appropriate use of each hand tool.
9. explain and perform the proper use of several portable power tools.
10. identify the main parts and uses of each stationary machine.
11. explain and apply some of the common wood joinery techniques.
12. understand and interpret architectural drawings.
13. identify the various components of drawings that make up a set of house plans.
14. explain permits, codes, and variances.
15. distinguish between level and plumb, set up a transit read, a leveling rod and explain how to get elevations from a benchmark.
16. explain batters and building lines.
17. explain the uses of concrete, cement and aggregate.
18. explain and follow the steps involved in proper floor framing.
19. perform the function of nailing and forming the outside corners and partition intersections of wall construction.
20. identify common rafters and describe the layout and erection of a gable roof.
21. demonstrate how to select and apply roofing materials and gutters.
22. describe the standards for window and door fabrication.
COURSE PROFICIENCIES (continued)

23. identify the common siding choices and describe how each is applied.
24. identify and describe the steps involved in installing insulation.
25. describe how to frame out an 8’ wall using steel studs.
26. explore career options in the construction field.
27. explain the typical designs, construction and utilization of wooden scaffolds.
28. identify the various types of doors, and describe how doors, frames and casings are installed.
29. identify the various types of stairs, and build them according to house needs.
30. explain the layout and installation requirements for a wood floor.
31. identify and install plumbing pipes and fixtures.
32. learn to repair and install basic household wiring.
33. discern which internet resources are valid for home construction advice.
ASSESSMENT PROCEDURES

Project and Design: 35%
- Research-based planning and development

Class Participation: 45%
- Ability to actively work on task
- Ability to work collaboratively with all members of the class
- Ability to perform whatever task is assigned
- Ability to successfully complete each assigned task

Test/Quizzes: 10%
- Skill Practicals

Classwork/Reporting: 10%
- Ability to orally explain work
- Ability to self-assess work

Final Grade

<table>
<thead>
<tr>
<th>Full Year Course</th>
<th>The midterm assessment will count as 10% of the final grade, and the final assessment will count as 10% of the final grade.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Each marking period shall count as 20% of the final grade</td>
<td>-</td>
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</tbody>
</table>
## I. SECTION NAME - SAFETY PROCEDURES

**Essential Question(s):**
- a) How will students maintain safety standards?

**Enduring Understanding(s):**
- a) Appropriate attire, safety goggles and knowledge of the safety guidelines for electrical work and safety procedures provides a valuable basis for success.

<table>
<thead>
<tr>
<th>PROFICIENCY / OBJECTIVE</th>
<th>CCCS</th>
<th>SUGGESTED ACTIVITY</th>
<th>EVALUATION/ASSESSMENT</th>
<th>TEACHER NOTES</th>
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<tbody>
<tr>
<td><strong>The student will:</strong></td>
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</tbody>
</table>
| 1. identify and describe the proper clothing and personal habits and safety equipment for use by carpenters in the shop. | 9.3.ST.3 9.3.12.AC.3 9.2.12.C.7 CRP.1,2,3,8 RST.9-10.2 | • observe and evaluate the clothing being worn by their peers, once the clothing requirements have been reviewed with the teacher.  
• wear safety glasses, and safety shoes, and avoid projectile injuries. | Peer assessment and teacher anecdotal notes during discussions  
Graphic organizer  
Checklists |               |
| 2. differentiate the three causes of fires and how to properly extinguish them and how to store flammable liquids. | 9.3.ST.3 9.3.12.AC.3 9.2.12.C.7 CRP.1,2,3,4,5,8 RST.9-10.3 | • walk through the shop area with the teacher to learn where safety shut-off valves, fire extinguishers, and fire blankets are located.  
• demonstrate how to properly use each piece of equipment. | Labeled map of shop  
Show and tell |               |
II. **SECTION NAME – MEASUREMENT**

**Essential Question(s):**

- a) What is the importance of accurate measurement in the construction industry?

**Enduring Understanding(s):**

- a. Students will understand and apply measurement systems in planning and layout in residential construction.
- Students will use geometric and trigonometric functions and will calculate required materials.

<table>
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<tr>
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<tbody>
<tr>
<td><strong>The student will:</strong></td>
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</table>
| 3. use mathematical skills and reasoning while solving construction problems. | 9.3.ST.2 9.3.12.AC.2 CRP.2,8 RST.9-10.3 | • use a ruler to measure several objects of different lengths to the 1/16th of an inch.  
• practice precise measuring throughout carpentry projects. | Quiz  
Teacher assessment  
Completed projects | |
III. **SECTION NAME – PROJECT MANAGEMENT**

**Essential Question(s):**
a) How will students learn to solve problems in construction project management?

**Enduring Understanding(s):**
a) Students will learn to interpret and use residential construction blue prints and specifications, and the logical sequencing of events – framing, plumbing and electrical. There are official codes from the state and local building standards commissions that must be followed when designing and building a structure. There are certain processes and materials best suited for: structural, electrical, mechanical and finishing.

<table>
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<tbody>
<tr>
<td>The student will:</td>
<td></td>
<td>Students will be able to:</td>
<td></td>
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</tr>
</tbody>
</table>
| 4. identify hardwoods and softwoods. | 9.3.12.AC.1 9.3.12.AC-CST.7 8.1.12.A.1 8.1.12.F.1 RST.11-12.7 | • investigate a specified website to gain additional information about hardwoods and softwoods.  
• obtain ten samples of wood and classify each in its proper classification grade.  
• complete chart and share results with the class. | Student notes Excel spreadsheet | http://woodworking.about.com/od/safetyfirst+/p/safetyrules.htm  
www.doityourself.com/.../softwood-vs-hardwood-whats-best-for-your-project  
www.ehow.com/video |
| 5. describe wood characteristics, both positive and negative. | 9.3.12.AC.1 9.3.12.AC-CST.7 8.1.12.A.1 8.1.12.F.1 RST.11-12.2,4 | • obtain several wood samples.  
• determine the lumber grade of each, calculate the actual lumber size according to established industry standards, and identify any defects found in the samples. | Display of wood samples Datasheet checked for accuracy and completeness | www.woodprojects.com/plans/.php |
<table>
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<tr>
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<tbody>
<tr>
<td>The student will:</td>
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</table>

| 6. explain the differences between plywood, hardboard, and particle board. | 9.3.12.AC.1 9.3.12.AC-CST.7 8.1.12.A.1 8.1.12.F.1 RST.11-12.7 | • compile results on datasheet to present to the class. | Student notes | Student demonstration assessed for accuracy and validity of use |
|                         |           | • observe the teacher model samples of plywood, hardboard and particleboard. |                       |              |
|                         |           | • each will obtain sample materials and, using proper nails or screws, assemble the wood samples and then demonstrate their intended use to the class. |                       |              |

| 7. identify the common types and parts of hand tools. | 9.3.12.AC-CST.9 RST.11-12.9 | • demonstrate their own ability to properly and safely use each hand tool. | Teacher observation | T-chart with tool and measuring procedures |
|                                                      |                         | • complete a written safety assessment. |                       |              |

<p>| 8. demonstrate the proper selection and appropriate use of each hand tool. | 9.3.12.AC-CST.9 CRP.1,2,8 | • observe the teacher model proper safety techniques, tool selection and measuring procedures for: hammer, screw drivers, bit and brace, ruler, square, jigsaw, cross cut saw, rip saw, bucksaw, hand pane, sliding T-bevel, files, backsaw, chisels, and combination square. | Quiz, assessed for accuracy and understanding |              |</p>
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</thead>
<tbody>
<tr>
<td>The student will:</td>
<td></td>
<td>• engage in a hand tool project in which they will be given a drawing and a block of wood to construct a designated object. Select the proper tools for use, after checking with teacher for approval.</td>
<td>Hand tool project assessed using teacher-made rubric</td>
<td></td>
</tr>
</tbody>
</table>
| 9. explain and perform the proper use of several portable power tools. | 9.3.12.AC-CST.9 CRP.1,2,8 | • observe a teacher demonstration of the safe and proper methods for operating the portable power tools.  
• Model safe and proper use of the following: router, drill, biscuit cutter, circular saw jig saw, nail gun, belt sander, finish sander, pocket bore, and miter box saw.  
• show how to change router bits, change a belt, adjust the wheel and proper placement of hands while operating a miter saw. Verbally answer questions throughout the process. | Assessed for safety and understanding using teacher-model  
Show and tell, judged by peers based on teacher-provided rubric  
Check sheet with student notes | http://articles.directorym.com/powertools_a993.html |
<p>| 10. identify the main parts and uses of each stationary machine. | 9.3.12.AC-CST.9 CRP.1,2,3,4,8,11 8.1.12.A.1 | • view a video clip on the safe use of power tools. | Student notes |</p>
<table>
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<th>EVALUATION/ ASSESSMENT</th>
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</thead>
</table>
| The student will:      |           | • observe as the teacher shows the proper methods for operating the following: jointer, lathe, table saw, miter saw, bond saw, planer, abrasive cutters.  
• utilize a set of plans to cut out and fabricate a kitchen base cabinet using portable and stationary power tools. | Performance assessment while working on products | Plans for cabinets, with photos of the steps to completion |
| 11. explain and apply some of the common wood joinery techniques. | 9.3.12.AC.CST.9 CRP.1,2,3,4,8,11 | utilize their constructed kitchen base cabinets to demonstrate the proper methods for making dado, end rabbet and edge rabbet wood joints. Results presented to the class. | Assessed using teacher notes throughout process | Drawings of different joints |
• demonstrate the use of scale by drawing a series of measuring lines under the guidance of the teacher. Q&A session throughout. | Assessed using teacher notes during Q&A | Completed drawings |

http://architecture.about.com/library/bl-styles_index.htm

http://www.artlex.com/course/architecturalmodel.htm
<table>
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</tr>
</thead>
<tbody>
<tr>
<td>The student will:</td>
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<td>Students will be able to:</td>
<td>Student responses to plans</td>
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<td></td>
<td></td>
<td>• examine several sets of house plans, foundation drawings, and drawings of electrical, plumbing, heating, and air conditioning, design and cabinet construction.</td>
<td>Paragraph about preferred model</td>
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<td></td>
<td></td>
<td>• use the information learned to select a plan that one would use if constructing one’s own house.</td>
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<tr>
<td>13. identify the various components of drawings that make up a set of house plans.</td>
<td>9.3.12.AC.1 9.3.12.AC.3 9.3.12.AC.6 8.1.12.</td>
<td>prepare a floor plan for a house, drawing to scale the windows, doors, walls and kitchen cabinets. Symbols for plumbing and electric must also be included.</td>
<td>Assessed using teacher- made rubric</td>
<td><a href="http://architecture.about.com/library/bl-styles_index.htm">http://architecture.about.com/library/bl-styles_index.htm</a> <a href="http://www.artlex.com/course/architectural_model.htm/">http://www.artlex.com/course/architectural_model.htm/</a></td>
</tr>
<tr>
<td>14. explain permits, codes, and variances.</td>
<td>9.3.12.AC.1 RST.11-12.4</td>
<td>• fill out a permit application for a plumbing, electrical, building, fire, and zoning application.  • investigate township documents to determine what a variance is and how it might apply.</td>
<td>Application form</td>
<td>Do Now written response</td>
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<td>Forms, packet and analysis assessed for accuracy,</td>
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<td>PROFICIENCY / OBJECTIVE</td>
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<td>SUGGESTED ACTIVITY</td>
<td>EVALUATION/ ASSESSMENT</td>
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<tr>
<td>The student will:</td>
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<td>Students will be able to:</td>
<td>completeness and understanding</td>
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<td>• complete a teacher-made packet along with a written analysis statement.</td>
<td>Calculation worksheet</td>
<td></td>
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<tr>
<td></td>
<td>9.3.12.AC.1,2 8.1.12.A.1 8.1.12.A.2 RST.11-12.3</td>
<td>• go to a football field set up a leveling transit and determine the difference in elevation from the center of the field to the sidelines in order to determine the crown of the field. • use the same procedure to determine the crown in the road, which is important when building a house where height restrictions apply. • write a report explaining procedures and results.</td>
<td>Student notes</td>
<td></td>
</tr>
<tr>
<td>15. distinguish the difference between level and plumb, set up a transit, read a leveling rod and explain how to get various elevations from a benchmark.</td>
<td></td>
<td></td>
<td>One-page report on procedures</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• mix cement using the proper formula. • working in small groups, using concrete block, trowels and levels, set the corner for a foundation of a model house.</td>
<td>Teacher observation</td>
<td></td>
</tr>
<tr>
<td>16. explain the uses of concrete, cement and aggregate.</td>
<td>9.3.12.AC-CST.7,9 8.1.12.A.1 RST.11-12.3</td>
<td></td>
<td>Demonstration to class of group work</td>
<td></td>
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<td>Peer evaluation according to teacher-determined criteria</td>
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<tr>
<td>The student will:</td>
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<td>finish the walls finished with plaster and waterproofing cement.</td>
<td>Spreadsheet</td>
<td></td>
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<td></td>
<td></td>
<td>prepare a written cost analysis that will be presented to the class.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. explain and follow the steps involved in proper floor framing.</td>
<td>9.3.12.A.C. 8.1.12.A.1 RST.11-12.3</td>
<td>building the floor on existing in-class foundation. Identify truss parts along with the application of floor bridging. Describe the kind of sub floor that will be used and complete the task. discover the materials used for sub-flooring. Demonstrate understanding of each procedure. estimate the size and amount of lumber they will need for the floor construction of the model house. build the floor on existing in-class foundation. Identify truss parts along with the application of floor bridges. Describe the kind of sub-floor that will be used and complete the task.</td>
<td>Labeled student drawings How-to oral demonstration Calculations Drawing with labeled parts Paragraph on procedure</td>
<td></td>
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<tr>
<td>The student will:</td>
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</tbody>
</table>
| 18. perform the function of nailing and forming the outside corners and partition intersections of wall construction. | 9.3.12.AC.1,2 | • observe the teacher model how to construct outside corners and partition intersections while using video clips and transparencies to facilitate the process. Q&A discussions throughout.  
• estimate the amount of lumber needed to erect the walls and ceilings on the model house.  
• given a floor plan, construct the walls on the in-class floor platform using proper building techniques.  
• nail together the corner posts and the headers.  
• complete teacher-prepared packet. | Student roles  
Class discussion  
Assessed using teacher-made rubric  
Walls of model structure  
Teacher observation  
Labeled packet |               |
| 19. identify common rafters and describe the layout and erection of a roof gable. | 9.3.12.AC.1,2  
8.1.B.5  
8.1.B.9  
8.2.B.3  
RST.9-10.7 | • observe the teacher model the required procedures.  
• given the span, rise and run, make one’s own common rafter, which is able to form a | Student notes  
Ability to complete task | http://extremehowto.com/xh/article.asp?article_id=60384  
http://www.woodweb.com/knowledge_base?Drawer_
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<tbody>
<tr>
<td>The student will:</td>
<td></td>
<td>completed gable roof on the in-class model.</td>
<td>Accurate, written self-evaluation assessed using a teacher-made Rubric (teacher-prepared) to assess computation and self-reflection</td>
<td>construction.html</td>
</tr>
<tr>
<td>Students will be able to:</td>
<td></td>
<td>• layout and construct the actual gable roof including sheathing.</td>
<td></td>
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<td></td>
<td></td>
<td>• prepare a final cost estimate and written self-evaluation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. demonstrate how to select and apply roofing materials and gutters.</td>
<td>9.3.12.AC.1,2 8.1.12.A.1 RST.9-10.7</td>
<td>• estimate the wood or asphalt covering materials needed for a sloping roof, including percentage of waste.</td>
<td>Photos of steps taken to complete the roof</td>
<td><a href="http://www.woodprojects.com/plans1.php">http://www.woodprojects.com/plans1.php</a> <a href="http://www.diy-yourself.com/scat/woodworking/projects">http://www.diy-yourself.com/scat/woodworking/projects</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• select the appropriate materials, apply them using the proper nailing techniques and demonstrate the proper positioning of the gutters.</td>
<td>Calculation sheet</td>
<td></td>
</tr>
<tr>
<td>21. describe the standards for window and door fabrication.</td>
<td>9.3.12.AC.1,2 9.3.12.AC-CST.1,2,3,4 RST.9-10.7</td>
<td>• perform a window and door installation project determine the appropriate window type</td>
<td>Assessed using teacher-made rubric</td>
<td></td>
</tr>
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<td>EVALUATION/ASSESSMENT</td>
<td>TEACHER NOTES</td>
</tr>
<tr>
<td>-------------------------</td>
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<td>--------------</td>
</tr>
<tr>
<td>The student will:</td>
<td></td>
<td>• explain the proper procedure for installation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• show how the window frame is adjusted for wall thickness</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• prepare the rough opening for the door frame</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• complete the actual installation of the window and door on the in-class model house.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

22. identify the common siding choices and describe how each is applied.

<table>
<thead>
<tr>
<th>STANDARDS</th>
<th>SUGGESTED ACTIVITY</th>
<th>EVALUATION/ASSESSMENT</th>
<th>TEACHER NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.3.12.AC.1,2</td>
<td>• calculate the square footage of area on the in-class model house.</td>
<td>Calculation worksheet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• examine the four types of siding available, and apply each of the types on the house using proper installation techniques.</td>
<td>Applied siding</td>
<td></td>
</tr>
</tbody>
</table>

23. identify and describe the steps involved in installing insulation.

<table>
<thead>
<tr>
<th>STANDARDS</th>
<th>SUGGESTED ACTIVITY</th>
<th>EVALUATION/ASSESSMENT</th>
<th>TEACHER NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.3.12.AC.1-6 9.3.12.AC-CST.1-6 RST.9-10.5</td>
<td>• given various types of insulation to install on the in-class house, determine the thermal rating of each and evaluate the product in terms of moisture control.</td>
<td>Calculation sheet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• establish the procedures for installing the batt, blanket, fill</td>
<td>Installed insulation</td>
<td></td>
</tr>
<tr>
<td>PROFICIENCY / OBJECTIVE</td>
<td>STANDARDS</td>
<td>SUGGESTED ACTIVITY</td>
<td>EVALUATION/ASSESSMENT</td>
</tr>
<tr>
<td>-------------------------</td>
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<td>-----------------------</td>
</tr>
<tr>
<td>The student will:</td>
<td></td>
<td>and rigid forms of insulation and perform the tasks.</td>
<td></td>
</tr>
</tbody>
</table>
|                         | 24. describe how to frame out an 8’ wall using steel studs. | • use a screw gun and tec screws to frame out an 8 foot wall using steel studs 16” on center with a top and bottom track.  
  • select the sheetrock and install, then identify the correct spackle and apply.  
  • apply the tape and three coats of spackle followed by sanding or sponging for smoothness. | Teacher observation  
  Peer assessed for ability to complete task as required  
  Completed walls |               |
|                         | 9.3.12.AC.1—6  
  RST.11-12.3 | | | |
|                         | 25. explore career options in the construction field. | • investigate selected websites to research a job related to the construction field.  
  • learn the difference between a General Contractor and Sub Contractor  
  • write a report explaining the working conditions, training required, earning potential, and employment outlook. | Research notes  
  Report  
  Student notes  
  Oral presentation assessed using teacher-made rubric | www.simplyhired.com/a/job\s/list/t-cabinet-maker  
  www.bls. |
<table>
<thead>
<tr>
<th>PROFICIENCY / OBJECTIVE</th>
<th>STANDARDS</th>
<th>SUGGESTED ACTIVITY</th>
<th>EVALUATION/ASSESSMENT</th>
<th>TEACHER NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student will:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• deliver the report orally.</td>
<td>Peer assessed for completeness and understanding</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• contact a local union office to obtain information about being in a union.</td>
<td>Question and Answer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• learn how to enter an apprentice program, and how to become a union worker.</td>
<td>Graphic organizer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• pair share, then report to the class.</td>
<td>Discussions and student responses</td>
<td></td>
</tr>
<tr>
<td>26. explain the typical designs, construction, and utilization of wooden scaffolds.</td>
<td>9.3.12.AC.1 9.3.12.AC-CST.5 9.3.12.AC-DES.1,3,4,5,6,8 RST.11-12.3</td>
<td>set up scaffolding on the sides of the in-class model house using proper safety techniques. Include the proper way to set up and take down ladders, and the types of brackets and jacks used in the building industry. Demonstrate skills to accomplish the assigned tasks.</td>
<td>Assessed for completeness and understanding</td>
<td>Teamwork and safety</td>
</tr>
<tr>
<td>27. identify the various types of doors, and describe how doors, frames and casings are installed.</td>
<td>9.3.12.AC-CST.5 9.3.12.AC-DES.1,3,4,5,6,8 8.1.12.F.1 8.1.12.C.1 RST.11-12.3</td>
<td>• determine which type of doors are most suitable for the location. Estimate the amount of linear feet of trim molding that will be needed, outline the</td>
<td>Assessed using teacher-made rubric</td>
<td>T-chart for doors and purposes Calculation worksheet</td>
</tr>
<tr>
<td>PROFICIENCY / OBJECTIVE</td>
<td>STANDARDS</td>
<td>SUGGESTED ACTIVITY</td>
<td>EVALUATION/ASSESSMENT</td>
<td>TEACHER NOTES</td>
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<td>-------------------------</td>
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</tr>
<tr>
<td>The student will:</td>
<td></td>
<td>border in which the installation process must occur.</td>
<td>Installed door</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• install a pre-hung door unit, cut, fit and nail all required trims.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. identify the various types of stairs, build them according to house needs.</td>
<td>9.3.12.AC-CST.5 9.3.12.AC-DES.1,3,4,5,6,8 RST.11-12.3</td>
<td>• obtain the rise-run ratio and the floor to ceiling length in order to calculate the number of steps needed.</td>
<td>Assessed using teacher notes and check sheet</td>
<td>Model staircase with construction notes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• obtain needed materials and fabricated model staircase with one open and one closed stringer.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. explain the layout and installation requirements of a wood floor.</td>
<td>9.3.12.AC-DES.1-8 RST.11-12.3</td>
<td>• calculate the square footage needed to install an oak wood floor in the in-class model.</td>
<td>Assessed using teacher notes and check sheet</td>
<td>Oral explanation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• explain the lay out and installation of a strip plank floor on concrete or on a plywood sub floor.</td>
<td></td>
<td>How-to sequence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• demonstrate the procedure for applying hardwood, particle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROFICIENCY / OBJECTIVE</td>
<td>STANDARDS</td>
<td>SUGGESTED ACTIVITY</td>
<td>EVALUATION/ASSESSMENT</td>
<td>TEACHER NOTES</td>
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</tr>
<tr>
<td>The student will:</td>
<td></td>
<td>Students will be able to:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>board, wafer board, and plywood underlayment.</td>
<td>Finished product</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• complete the installation process using proper techniques.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. identify and install the plumbing pipes and fixtures.</td>
<td>9.3.12.AC-1-8 8.1.12.F.1 RST.11-12.3 RST.11-12.7</td>
<td>• investigate websites to learn about waste vent pipe, and water supply systems, determine the various types of fittings needed for copper, iron and plastic pipe.</td>
<td>Log of websites with student notes</td>
<td><a href="http://www.menv.states.nm.us/fod/liquidwaste/">www.menv.states.nm.us/fod/liquidwaste/</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• using johny bolts, install a toilet base using a wax ring. Explain the use of channel locks; remove existing valve and install a new one, using vise and treading tool, tread ½ inch copper pipe fittings.</td>
<td>Vocabulary for plumbing with definitions</td>
<td><a href="http://www.cdc.gov/nech/publications/books/.../9a_water.ntm">www.cdc.gov/nech/publications/books/.../9a_water.ntm</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• use plastic solvent to weld joints together.</td>
<td>Completed toilet installation</td>
<td></td>
</tr>
<tr>
<td>31. learn to repair and install basic household wiring.</td>
<td>9.3.12.AC-CST.7 9.3.12.AC-DEC.3,4,6 8.1.12.F.1 RST.11-12.3</td>
<td>• investigate specified website, and observe the teacher model the appropriate safety procedures; as well as terms,</td>
<td>Assessed using Q&amp;A techniques throughout procedure</td>
<td><a href="http://www.ehow.com/video_4420130electrical">http://www.ehow.com/video_4420130electrical</a></td>
</tr>
<tr>
<td>PROFICIENCY / OBJECTIVE</td>
<td>STANDARDS</td>
<td>SUGGESTED ACTIVITY</td>
<td>EVALUATION/ASSESSMENT</td>
<td>TEACHER NOTES</td>
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</tr>
<tr>
<td>The student will:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Students will be able to:</td>
<td></td>
<td></td>
<td></td>
<td>Student notes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>tools, and fixtures associated with electrical wiring.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• engage in an electrical wiring activity:</td>
<td></td>
<td>Assessed using teacher observation and check sheet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• first strip the ends of wire and connect them to a plug.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• connect other end of plug to a box using romex connectors</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• using the outlet, connect wires from the box</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• install the light fixture by connecting the wires from the outlet box to the light</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• connect the wire from the switch box to the light box to be able to control the light</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• install a door bell system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. discern which Internet resources are valid for home construction advice.</td>
<td>8.1.12.B.1 8.1.12.F.1 RST.11-12.7</td>
<td>• choosing a building task, select three how-to videos from YouTube™ on a process the class has learned and practiced.</td>
<td>Viewing log</td>
<td>Oral presentation to class</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• decide which is the most useful for home do-it-yourself carpenters and explain why.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY

SOFTWARE:

WEBSITES:
http://www.woodprojects.com/plans1.php
http://www.doityourself.com/scat/woodworkingprojects
http://woodworking.about.com/od/safetyfirst/tp/safetyRules.htm
http://www.ccohs.ca/oshanswers/safety_haz/woodwork/gen_safe.html
http://articles.directorym.com/Power_Tools-a993.html
http://extremehowto.com/xh/article.asp?article_id=60384
http://www.woodweb.com/KnowledgeBase/KBCabinetmakingCustomCabinetConstruction.html
http://www.woodweb.com/knowledge_base/Drawer_construction.html
http://www.customcabinetsdirect.com/plywood_construction_cabinets.html
http://www.simplyhired.com/a/jobs/list/t-cabinet+maker
http://architecture.about.com/library/bl-styles_index.htm
http://articles.directorym.com/How_to_Build_a_House_Spokane_WA_1000862-Spokane_WA.html
http://articles.directorym.com/How_to_Build_a_House_Spokane_WA_1000862-Spokane_WA.html
http://articles.directorym.com/How_to_Build_a_House_Spokane_WA_1000862-Spokane_WA.html
http://www.menv.state.nm.us/fod/liquidwaste/
http://www.woodprojects.com/plans1.php
RESOURCES:
APPENDIX A  SAMPLE AUTHENTIC ASSESSMENT
You are a high school student who wants to attend a selective program for Construction Management, a new degree that is available at a technical institute. You want to impress the admissions committee. You have brainstormed with your fellow Residential Technology students about how to showcase your skills.

You approached your Applied Technology teachers about what you can do to show your technical knowledge and work ethic, to increase your chances of being admitted. One suggests that you prepare a model replica of a home that include all of the elements required for high quality construction along with safe and effective tool utilization.

This teacher helps you by establishing the criteria for the constructed model that you will present to the admissions department of the college to which you are applying. His knowledge of college-level work in this field tells him that the following task proficiencies will help you impress the admissions department.

The following details will be looked at carefully:

- Careful and accurate measurements to within 1/16 of an inch in all instances
- Design plans for the exterior of the house
- A materials list along with cost estimates
- A timeline indicating completion of each major phase of construction, so appropriate inspections can be arranged

The following building components will be evaluated upon completion of the model:

- Foundation construction (materials, levelness, suitability to the terrain)
- Framing (floor, roof, walls, ceiling, doors, and windows)
- Siding selection
- Roofing selection
## AUTHENTIC ASSESSMENT RUBRIC

<table>
<thead>
<tr>
<th>Constructed Model</th>
<th>Exemplary</th>
<th>Satisfactory</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student selected and expertly used the best tools and equipment for the job. Measurements on target and all within 1/16”. All safety procedures carefully followed. Model exactly represents design with every proposed detail being included.</td>
<td>Student used appropriate tools and equipment for the job. Measurements followed established guidelines. Safety procedures were carefully followed. Model represents design.</td>
<td>Student could not select appropriate tools and equipment for the job. Measurements were outside of the established guidelines. Safety procedures were followed in some cases, and/or model did not closely represent the design.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Materials Selection</th>
<th>Exemplary</th>
<th>Satisfactory</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student selected lumber and materials that meet all industry standards. Plywood, hardwoods, and particle boards are used exactly as intended for maximum efficiency and durability.</td>
<td>Student used lumber and material that met industry standards. A variety of wood materials were utilized to complete the job as intended.</td>
<td>Student did not use appropriate lumber and materials in each instance. All prescribed wood types were not represented.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Design Plan &amp; Cost Timeline</th>
<th>Exemplary</th>
<th>Satisfactory</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student is able to prepare and read all the technical, detailed architectural drawings, including plot, foundation and floor plans. A precise timeline is prepared accounting for weather conditions, in order for inspections to be arranged in a timely manner.</td>
<td>Student is able to read architectural drawings and prepare a general timeline for completion, keeping inspections in mind.</td>
<td>Student is unable to read architectural drawings. The timeline is unclear, making it difficult to plan for inspections.</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B  NEW JERSEY STUDENT LEARNING STANDARDS

3 - English Language Arts
4 - Mathematics
5 - Science
8 - Technology
9 - 21st Century Life and Careers
APPENDIX C   CURRICULUM MODIFICATIONS & ADAPTATIONS
There is no recipe for adapting general education curriculum to meet each student’s needs. Each teacher, each student, each classroom is unique and adaptations are specific to each situation.

Keep in mind that curriculum does not always need to be modified. By providing multi-level instruction you will find that adapting a lesson may not always be necessary. Differentiating instruction and providing multiple ways assess allows more flexibility for students to meet the standards and requirements of the class. At other times, the curriculum can be made more accessible through accommodations. In addition, supports for one student may not necessarily be the same in all situations, e.g., a student who needs full time support from a paraprofessional for math may only need natural supports from peers for English, and no support for art. And, supports should not be determined by the disability label, instead supports should be used when the instructional or social activity warrants the need for assistance. (Fisher and Frey, 2001).

The forms and examples on the following pages provide information about curriculum and types of adaptations that could be considered in developing the appropriate strategy for a particular student. Examples are provided for both elementary and secondary levels.
A Curricular Adaptation and Decision-making Process

This decision-making flowchart can be used to conceptualize the process of selecting and implementing curricular adaptations. It should be used as a tool for a team in determining an individual student’s needs.

1. Identify the student’s individual educational goals and objectives to be emphasized during general education activities

2. Articulate the expectations for the student’s performance in general education activities

3. **Determine what to teach**
   As a team, determine the content of the general education activity, theme or unit study

4. **Determine how to teach**
   As a team, determine if, without modification, the student can actively participate and achieve the same essential outcomes as non-disabled classmates. If the student cannot achieve the same outcomes...

5. **Select of design appropriate adaptations**

   - Select instructional arrangement
   - Select lesson format
   - Employ student-specific teaching strategies
   - Select curricular goals specific to the lesson
   - Engineer the physical and social classroom environment
   - Design modified materials
   - Select natural supports and supervision arrangements

6. If the above adaptation strategies are not effective, design an alternative activity

7. Evaluate effectiveness of adaptations
A Curricular Adaptation and Decision-making Model

Examine the Structure of the Instruction

1. Can the student actively participate in the lesson without modification? Will the same essential outcome he achieved?
2. Can the student’s participation be increased by changing the instructional arrangement?
   - From traditional arrangements to:
     - Cooperative groups
     - Small groups
     - Peer partners
     - Peer or cross-age tutors
3. Can the student’s participation be increased by changing the lesson format?
   - Interdisciplinary/thematic units
   - Activity-based lessons, games, simulations, role-plays
   - Group investigation or discovery learning
   - Experiential lessons
   - Community-referenced lessons
4. Can the student’s participation and understanding be increased by changing the delivery of instruction or teaching style?

Examine the Demands and Evaluation Criteria of the Task

5. Will the student need adapted curricular goals?
   - Adjust performance standards
   - Adjust pacing
   - Same content but less complex
   - Similar content with functional/direct applications
   - Adjust the evaluation criteria or system (grading)
   - Adjust management techniques

Examine the Learning Environment

6. Can the changes he made in the classroom environment or lesson location that will facilitate participation?
   - Environmental/physical arrangements
• Social rules
• Lesson location

### Examine the Materials for Learning

7. Will different materials be needed to ensure participation?
   • Same content but variation in size, number, format
   • Additional or different materials/devices
   • Materials that allow a different mode of input
   • Materials that allow a different mode of output
   • Materials that reduce the level of abstraction of information

### Examine the Support Structure

8. Will personal assistance be needed to ensure participation?
   • From peers or the general education instructor?
   • From the support facilitator’?
   • From therapists’?
   • From paraprofessionals?
   • From others?

### Arrange Alternative Activities that Foster Participation and Interaction

9. Will a different activity need to be designed and offered for the student and a small group of peers?
   • In the classroom
   • In other general education environments
   • In community-based environments

# Curriculum Adaptations

It is important to correlate adaptations with the IEP. In other words, we are not adapting for adaptations sake but, to meet the student’s needs as identified on an IEP.

<table>
<thead>
<tr>
<th>a. Curriculum as is. This is the type we forget most frequently. We need to constantly be looking at the general education curriculum and asking if the students on IEPs may gain benefit from participating in the curriculum as is. We need to keep in mind that incidental learning does occur. Curriculum as is supports outcomes as identified in standard curriculum.</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Different objective within the same activity and curriculum. The student with an IEP works with all the other students in the classroom participating in the activity when possible but, with a different learning objective from the other students. This is where the principle of partial participation fits. Examples include:</td>
</tr>
<tr>
<td>Move in this direction only when necessary</td>
</tr>
<tr>
<td>• A student with a short attention span staying on task for 5 minutes.</td>
</tr>
<tr>
<td>• Using a switch to act as a communication device to share during a class discussion.</td>
</tr>
<tr>
<td>• Expressing one’s thoughts by drawing in a journal instead of writing.</td>
</tr>
<tr>
<td>• Holding a book during reading time.</td>
</tr>
<tr>
<td>• Understanding the effect World War II has on the present rather than knowing the names and dates of key battles.</td>
</tr>
<tr>
<td>c. Material or environmental adaptations. The material or environmental changes are utilized so that participation in the general education curriculum by the student with the IEP may occur. Examples include:</td>
</tr>
<tr>
<td>• 5 spelling words from the weekly list instead of the standard 20.</td>
</tr>
<tr>
<td>• Completing a cooking assignment by following picture directions rather than written directions</td>
</tr>
<tr>
<td>• Changing the grouping of the class from large group to small groups (possible with the additional support staff).</td>
</tr>
<tr>
<td>• Changing the instructional delivery from lecture to the cooperative learning format</td>
</tr>
<tr>
<td>• Using a computer to write an assignment instead of paper and pencil.</td>
</tr>
<tr>
<td>• Reading a text to a student.</td>
</tr>
<tr>
<td>• Highlighting the important concepts in a textbook.</td>
</tr>
<tr>
<td>• Having the student listen to a taped textbook.</td>
</tr>
<tr>
<td>• Using enlarged print</td>
</tr>
<tr>
<td>• Using an assistive technology device</td>
</tr>
<tr>
<td>• Using visual cues such as picture and/or word schedules for those who have difficulty staying on task.</td>
</tr>
<tr>
<td>• Using a note taking guide listing the key concepts during a lecture.</td>
</tr>
</tbody>
</table>
### d. Providing Physical assistance

Assistance from another person may be needed for a student to participate in a classroom activity. If possible, it is better to use natural supports (peers) as these will be the people always present in the student’s life. If the use of peers is not possible, then either the support teacher, the paraprofessional, the classroom teacher, the classroom aide, or a parent volunteer may provide the assistance. Most peers and staff will need training in the correct way of providing physical assistance. In addition, we need to keep in mind the principle of partial participations.

Examples include:

- Starting a computer for an student with an IEP to use.
- Guiding a hand during handwriting.
- Assisting in activating a switch.
- Completing most of the steps of an activity and having a student with an IEP do the remainder.
- Pushing a student in a wheelchair to the next activity.

### e. Alternative/substitute curriculum

This is sometimes referred to as functional curriculum as it usually involves the acquisition of “life skills.” The decision to use alternative/substitute curriculum is a major change and needs to be reflected on the IEP. This decision should be carefully made after weighing all of the pros and cons of using an alternative curriculum. The alternative curriculum may or may not take place in the general education classroom.

Examples include:

- Community-based instruction (which all students may benefit from!)
- Learning job skills in the school cafeteria.
- Learning how to use a communication device.
- Doing laundry for the athletic department
- Learning cooking/grooming skills at the home.

Overlap does occur among the five types of curriculum adaptations.
## Nine Types of Adoptions

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapt the way instruction is delivered to the learner.</td>
<td>Adapt how the learner can respond to instruction</td>
<td>Adapt the time allotted and allowed for learning, task completion or testing.</td>
</tr>
<tr>
<td><em>For example:</em> Use different visual aids; plan more concrete examples; provide hands-on activities; place students in cooperative groups.</td>
<td><em>For example:</em> Allow a verbal vs. written response; use a communication book for students; allow students to show knowledge with hands-on materials.</td>
<td><em>For example:</em> Individualize a timeline for completing a task; pace learning differently (increase or decrease) for some learners.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Difficulty</th>
<th>Level of Support</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapt the skill level, problem type, or the rules on how the learner may approach the work.</td>
<td>Increase the amount of personal assistance with specific learner.</td>
<td>Adapt the number of items that the learner is expected to learn or compete.</td>
</tr>
<tr>
<td><em>For example:</em> Allow a calculator for math problems; simplify task directions; change rules to accommodate learner needs.</td>
<td><em>For example:</em> Assign peer buddies, teaching assistants, peer tutors or cross-age tutors.</td>
<td><em>For example:</em> Reduce the number of social studies terms a learner must learn at any one time.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree of Participation</th>
<th>Alternate Goals</th>
<th>Substitute Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapt the extent to which a learner is actively involved in the task.</td>
<td>Adapt the goals or outcome expectations while using the same materials.</td>
<td>Provide the different instruction and materials to meet a learner’s individual goals.</td>
</tr>
<tr>
<td><em>For example:</em> In geography, have a student hold the globe, while others point out the locations.</td>
<td><em>For example:</em> In social studies, expect one student to be able to locate just the states while others learn to locate capitals as well.</td>
<td><em>For example:</em> Individualize a timeline for completing a task; pace learning differently (increase or decrease) for some learners.</td>
</tr>
</tbody>
</table>

---

Adaptations

Creating Ways to Adapt Familiar Lessons - Elementary

1. Select the subject area (and grade level) to be taught:
   reading  math  science  social studies  writing  music  health  P.E.  art
   Grade Level: ..................

2. Select the lesson topic to be taught (on one day):

3. Briefly identify the *curricular* goal for most learners: By the end of this class, most students will know
   ........................................................................................................

4. Briefly identify the *instructional* plan for most learners: As teacher, I will ..............................................
   ........................................................................................................

5. Identify the name(s) of the learner(s) who will need adaptations in the curriculum or instructional plan:
   ........................................................................................................

6. Now use “Nine Types of Adaptations” as a means of thinking about some of the ways you could adapt what or how you teach to accommodate this learner in the classroom for this lesson.

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty</td>
<td>Level of Support</td>
<td>Size</td>
</tr>
</tbody>
</table>

Degree of Participation  Alternate Goal  Substitute Curriculum

*Center for School & Community Integration, Institute for the Study of Developmental Disabilities, Indiana University, Bloomington, IN*
Creating Ways to Adapt Familiar Lessons - Elementary

1. Select the subject area (and grade level) to be taught:
   - reading
   - math
   - science
   - social studies
   - writing
   - music
   - health
   - P.E.
   - art

   Grade Level: ...

2. Select the lesson topic to be taught (on one day): **Vocabulary comprehension**

3. Briefly identify the curricular goal for most learners: By the end of this class, most students will know...
   - the meaning of new vocabulary words from their story...

4. Briefly identify the instructional plan for most learners: As teacher, I will...ask students to complete a matching activity in which they match words and definitions on paper.
   - The students will also choose one word and write a sentence using the word on the bottom of their paper.

5. Identify the name(s) of the learner(s) who will need adaptations in the curriculum or instructional plan: **Kim**

6. Now use “Nine Types of Adaptations” as a means of thinking about some of the ways you could adapt what or how you teach to accommodate this learner in the classroom for this lesson.

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place students in cooperative groups and divide the task between group members. Each member teaches their vocabulary work to team members.</td>
<td>Allow the student to record all or part of the assignment on tape.</td>
<td>Ask the student to complete the assignment at home and return it the next day.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Difficulty</th>
<th>Level of Support</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select different vocabulary words for the student to learn; words that are less difficult or in some cases more difficult.</td>
<td>Ask a classmate, peer tutor or teaching assistant to assist in completing the assignment.</td>
<td>Select fewer (or more) words for the student to learn, but leave the assignment the same as for other students.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree of Participation</th>
<th>Alternate Goal</th>
<th>Substitute Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask the student to check classmates’ definitions against as answer key.</td>
<td>Set the goal as being to write the words only, or being able to pronounce the words, or just listening to the words and definitions.</td>
<td>Choose a different story for the student to read and identify one or several words the learner needs to know.</td>
</tr>
</tbody>
</table>

*Center for School & Community Integration, Institute for the Study of Developmental Disabilities, Indiana University, Bloomington, IN*
Creating Ways to Adapt Familiar Lessons - Secondary

1. Select the subject area (and grade level) to be taught:
   - math
   - science
   - history
   - literature
   - business
   - P.E.
   - fine arts
   - health
   Grade Level: ......................

2. Select the lesson topic to be taught (on one day):

3. Briefly identify the *curricular* goal for most learners: By the end of this class, most students will know .................................................................

4. Briefly identify the *instructional* plan for most learners: As teacher, I will .................................................................

5. Identify the name(s) of the learner(s) who will need adaptations in the curriculum or instructional plan:

6. Now use “Nine Types of Adaptations” as a means of thinking about some of the ways you could adapt what or how you teach to accommodate this learner in the classroom for this lesson.

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty</td>
<td>Level of Support</td>
<td>Size</td>
</tr>
<tr>
<td>Degree of Participation</td>
<td>Alternate Goal</td>
<td>Substitute Curriculum</td>
</tr>
</tbody>
</table>
SAMPLE FORM

Creating Ways to Adapt Familiar Lessons - Secondary

1. Select the subject area (and grade level) to be taught:
   math  science  history  literature  business  P.E.  fine arts  health
   Grade Level: 10

2. Select the lesson topic to be taught (on one day): Concept comprehension

3. Briefly identify the curricular goal for most learners: By the end of this class, most students will be able to define and explain the relevance of five concepts from their text chapter.

4. Briefly identify the instructional plan for most learners: As teacher, I will ask the students to read the chapter, identify five key concepts and write a short paragraph describing each concept they have chosen.

5. Identify the name(s) of the learner(s) who will need adaptations in the curriculum or instructional plan:
   John

6. Now use “Nine Types of Adaptations” as a means of thinking about some of the ways you could adapt what or how you teach to accommodate this learner in the classroom for this lesson.

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide a review of the chapter prior to having the student complete the written work.</td>
<td>Allow the student to use a tape recorder to dictate the assignment instead of having to write the answers.</td>
<td>Allow the student an extra day to complete the task either in study hall or at home.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Difficulty</th>
<th>Level of Support</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify the key concepts for the student but keep the remainder of the assignment the same.</td>
<td>Place the students in cooperative groups to complete this assignment. Group members can assist the student with reading or writing.</td>
<td>Select fewer or more concepts for the student to learn, but leave the assignment the same as for other students.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree of Participation</th>
<th>Alternate Goal</th>
<th>Substitute Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask the student to pick out related books from the library that will provide supplementary information for classmates.</td>
<td>Set the goal as being to write the key concept words only, or being able to pronounce the words, or just listening to the words and descriptions.</td>
<td>During this lesson the student can work on keyboarding skills in the computer lab.</td>
</tr>
</tbody>
</table>

Center for School & Community Integration, Institute for the Study of Developmental Disabilities, Indiana University, Bloomington, IN
(Elementary)

## Thematic Lesson Plan

<table>
<thead>
<tr>
<th>School Name</th>
<th>Class</th>
<th>Unit</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>Room:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td></td>
</tr>
<tr>
<td>Grade:</td>
<td></td>
</tr>
<tr>
<td>Parent/Guardian:</td>
<td>Phone:</td>
</tr>
<tr>
<td>Classroom Teacher:</td>
<td></td>
</tr>
<tr>
<td>Inclusion Support Teacher:</td>
<td></td>
</tr>
</tbody>
</table>

### Major standards, objectives and expectations for the unit

### Materials, books, media, worksheets, software, etc.

### Items requiring accommodations and/or modifications

### Instructional arrangements. Time and opportunities for large group, small group, coreg, group, learning centers, individual activities, non-classroom instruction.

### Items requiring accommodations and/or modifications

### Projects, supplemental activities, and homework

### Items requiring accommodations and/or modifications

### Assessment(s) and final products. Summarize actual student performance (attach examples as appropriate) on the reverse.

### Items requiring accommodations and/or modifications
## SAMPLE FORM

### Thematic Lesson Plan

<table>
<thead>
<tr>
<th>School Name: Palm View Elementary</th>
<th>Class: Social Studies</th>
<th>Unit: More Alike Than Different</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Name: Corey Santos</td>
<td>Grade: 2</td>
<td></td>
</tr>
<tr>
<td>Age: 8</td>
<td>Parent/Guardian: Ms. Anita Santos</td>
<td>Phone: 555-5432</td>
</tr>
<tr>
<td>Classroom Teacher: Mr. Sean Garrett</td>
<td>Inclusion Support Teacher: Ms. Tangela Hunter</td>
<td>Room: 21</td>
</tr>
</tbody>
</table>

**Major standards, objectives and expectations for the unit:**

1. Understand why personal and civic responsibility are important.
2. Understand the cultural traditions and contributions of various societies and groups.
3. Display appreciation of diversity in our society, including cultural, gender, and ability.

<table>
<thead>
<tr>
<th>Materials, books, media, worksheets, software, etc.</th>
<th>Items requiring accommodations and/or modifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Children's books on topic</td>
<td>1. Some books on tape</td>
</tr>
<tr>
<td>2. &quot;Chocolates&quot; posterboard (Activities for a Diverse Classroom)</td>
<td>2. Highlighted posterboard</td>
</tr>
<tr>
<td>3. Family interview questions</td>
<td>3. Fewer questions - done on audio tape</td>
</tr>
<tr>
<td>4. Slides and overheads</td>
<td></td>
</tr>
</tbody>
</table>

**Instructional arrangements, time and opportunities for large group, small group, core group, learning centers, individual activities, non-classroom instruction.**

Does it change day to day? Explain:

1. Large group for read aloud
2. Interactive lessons using various media
3. Cooperative groups to complete Hyperstudio project
4. Small group for chocolate activity

**Projects, supplemental activities, and homework:**

1. "Box of chocolates" activity (Activities for a Diverse Classroom)
2. Hyperstudio group project: Are We More Alike Than Different?
3. Homework - Family interview

**Assessment(s) and final products.** Summarize actual student performance (attach examples as appropriate) on the reverse.

1. Completion of group activities
2. Rubric for Hyperstudio presentation
3. Family interview

**Items requiring accommodations and/or modifications:**

1. Highlight posterboard of key points
2. Select task items as student's instructional level
3. Provide word bank or magazine pictures
4. Assess on use of language
5. Modify rubric
# Thematic Lesson Plan

**School Name:** Palm View Elementary  
**Class:** Language Arts  
**Unit:** One Book, Two Book, Red Book, Blue Book: Author Study of Dr. Seuss

| Student Name | Cory Santos  
| Age | 8  
| Grade | 2  
| Parent/Guardian | Ms. Anita Santos  
| Phone | 555-5432  
| Classroom Teacher | Mr. Sean Garrett  
| Inclusion Support Teacher | Ms. Tangela Hunter

**Room:** 21

<table>
<thead>
<tr>
<th>Major standards, objectives and expectations for the unit</th>
<th>Items requiring accommodations and/or modifications</th>
</tr>
</thead>
</table>
| 1. Increase comprehension by rereading, retelling, and discussion.  
2. Determine the main idea in nonprint communication.  
3. Write, question, and make observations about familiar topics, stories, and new experiences.  
4. Recognize personal preferences in literature. | 2. Pictures available for use in journal  
6. Picture vocabulary writing program  
7. Taped readings of source material |

<table>
<thead>
<tr>
<th>Materials, books, media, worksheets, software, etc.</th>
<th>Items requiring accommodations and/or modifications</th>
</tr>
</thead>
</table>
| 1. Dr. Seuss books;  
2. Formatted reflective journal;  
3. Summary sheet to be completed on each book;  
4. Family response journal (homework);  
5. Video versions of Dr. Seuss books;  
6. Computer - ClarisWorks program;  
7. Biographical source materials | 1. Preview for prior knowledge  
3. Picture schedule of activity  
4. Design with sentence stems  
5. Create list of materials to locate  
6. Pictures for web  
7. Picture checklist of process |

<table>
<thead>
<tr>
<th>Instructional arrangements, time and opportunities for large group, small group, core group, learning centers, individual activities, non-classroom instruction. Does it change day to day? Explain</th>
<th>Items requiring accommodations and/or modifications</th>
</tr>
</thead>
</table>
| 1. Large group for K-W-L chart;  
2. Large group read aloud;  
3. Read-write-pair-share;  
4. Individual journal writing;  
5. Partner research in media center;  
6. Concept web of themes;  
7. Small group editing | 1. Parent tips for activity  
2. Assistance in selecting books |

<table>
<thead>
<tr>
<th>Projects, supplemental activities, and homework</th>
<th>Items requiring accommodations and/or modifications</th>
</tr>
</thead>
</table>
| 1. Read 2 books-parent and child write in response journal (homework);  
2. Choose 4 books from list (one must be a video), analyze for common themes;  
3. Analyze for a kindergartner, then read aloud to him or her | 2. Reduce number to focus on thematic analysis  
3. Use pictures to support self-assessment |

<table>
<thead>
<tr>
<th>Assessment(s) and final products. Summarize actual student performance (attach examples as appropriate) on the reverse.</th>
<th>Items requiring accommodations and/or modifications</th>
</tr>
</thead>
</table>
| 1. Reflective journal entries  
2. Author project rubric of presentation  
3. Self-assessment of kindergarten reading  
# SAMPLE FORM  (Secondary)

## Academic Unit Lesson Plan

<table>
<thead>
<tr>
<th>School Name</th>
<th>Class</th>
<th>Unit</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>Class Schedule:</th>
<th>Room:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade:</td>
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<tr>
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<td></td>
<td>Phone:</td>
</tr>
<tr>
<td>Advocate Teacher:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Teacher:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Major standards, objectives and expectations for the unit**

**Materials, books, media, worksheets, software, etc.:**

**Instructional arrangements:** Time and opportunities for large group, small group, corep group, learning centers, individual activities, non-classroom instruction. Does it change day to day? Explain:

**Projects, supplemental activities, and homework**

**Assessment(s) and final products:** Summarize actual student performance (attach examples as appropriate) on the reverse.

**Items requiring adaptations and/or modifications**
# Academic Unit Lesson Plan

**School Name:** Central  
**Class:** Biology  
**Unit:** The Cell

**Student Name:** Kelley Glass  
**Age:** 15  
**Grade:** 10  
**Parent/Guardian:** Ms. Rebecca Glass  
**Phone:** 555-1212  
**Advocate Teacher:** Mr. David Porter  
**Classroom Teacher:** Ms. Juana Fauche

<table>
<thead>
<tr>
<th>Class Schedule</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1: Math</td>
<td>22</td>
</tr>
<tr>
<td>Block 2: English</td>
<td>147</td>
</tr>
<tr>
<td>Block 3: Biology</td>
<td>108</td>
</tr>
<tr>
<td>Block 4: World Geography</td>
<td>158</td>
</tr>
<tr>
<td>Block 5: 3-D Art</td>
<td>17</td>
</tr>
</tbody>
</table>

**Major standards, objectives and expectations for the unit:**

1. Students will understand the structure and function of the cell.
2. Students will identify the parts of the cell.
3. Students will identify how cells are organized in multi-cellular organisms.

**Materials, books, media, worksheets, software, etc.:**

1. Book: Modern Biology  
2. Educational videotapes related to chapter contents  
3. Art supplies for Cell projects  
4. Chapter worksheets  
5. Primary source: Science magazine article on the cell  
6. Local biology professor to discuss current research on cells

**Items requiring adaptations and/or modifications:**

1. Order textbook from publisher on cassette.
2. Modify worksheets to emphasize key points of chapters.
3. Record science magazine article on audio tape.

**Instructional arrangements:**

- Time and opportunities for large group, small group, co-op group, learning centers, individual activities, non-classroom instruction. *Does it change day to day? Explain.*

1. Large group instruction with overheads to introduce the cell.
2. Small groups to complete labs, worksheets, mind map, and chapter review.
3. Two cell labs will be completed in partners (onion skin & Jell-O).
4. Individual time to complete illustrated vocabulary.

**Projects, supplemental activities, and homework:**

1. Homework: Complete vocabulary, bring in Jell-O cell food items  
2. "Design a cell" and "Parts of the cell" group projects & presentations  
3. Write-up for each completed lab with illustrations

**Assessment(s) and final products:**

1. Add illustrated vocabulary words to class portfolio  
2. Culminating activity: "Design a cell" and "Parts of the cell" projects  
3. Chapter test
\begin{itemize}
  \item The academic unit lesson plan for the book \textit{Of Mice and Men}.
  \item Classroom assignments and activities.
  \item Assessment and final products.
\end{itemize}

\textbf{SAMPLE FORM}

\textbf{Academic Unit Lesson Plan}

\begin{tabular}{|l|l|l|}
\hline
School Name: Central & Class: Sophomore English & Unit: \textit{Of Mice and Men} \\
\hline
Student Name: Kelley Glass & Class Schedule: & Room: \\
Age: 15 & Block 1: Math & 22 \\
Grade: 10 & Block 2: English & 147 \\
Parent/Guardian: Ms. Rebecca Glass Phone: 555-1212 & Block 3: Biology & 108 \\
Advocate Teacher: Mr. David Porter & Block 4: World Geography & 156 \\
Classroom Teacher: Ms. Sarah Moore & Block 5: 3-D Art & 19 \\
\hline
\end{tabular}

\begin{itemize}
  \item Students will evaluate their beliefs related to prejudice and diversity.
  \item Students will learn about the plight of the migrant farm worker.
  \item Students will learn about the times during the Depression and the time period in which Steinbeck did his writing.
\end{itemize}

\textbf{Materials, books, media, worksheets, software, etc.}

\begin{itemize}
  \item Copy of the short story \textit{"The Circuit"} by Francisco Serrano
  \item Copy of the novel \textit{Of Mice and Men} by John Steinbeck
  \item Worksheets for each of the six chapters
  \item Video of the novel \textit{Of Mice and Men}
  \item Video camera
  \item "I Am" poem to use with "The Circuit"
  \item "Open Mind" worksheet (see activity under Projects)
  \item Circle of friends activity (see activity under Projects)
\end{itemize}

\begin{itemize}
  \item Peer takes notes in class, student types notes on computer for both
  \item Re-arranged worksheets completed on the computer with peer tutor.
  \item Give options for responses for completing poem (3 choices for each line of the poem)
  \item Listen to audiosphere recording of the novel \textit{Of Mice and Men}
  \item Rehearse part in play with picture cues and cards
  \item Word bank to use for completing "Open Mind" activity
\end{itemize}