

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
00 - Computer Programming Fundamentals									
A	Leadership								
B	Business Principles								
C	Total Quality Principals								
10 - Microsoft Programs									
D	Microsoft Word	CMP110							
D001	Creating, Saving, and Printing a Document	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
D002	Formatting Text	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
D003	Setting and Using Tabs and Indents	CMP110	MOS Word 77-601 Exam	Number Systems/Number Relationships 2.1.5	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
D004	Searching and Replacing Text	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
D005	Using Bullets and Numbers	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
D006	Sorting Text within a Document	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	X
D007	Creating Documents with Multiple Columns	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
D008	Using Mail Merge	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
D009	Inserting and Using Graphics	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
D010	Headers, Footers, and Footnotes	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
D011	Mailing Labels	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	N/A	N/A	X	N/A
D012	Using a Template to Create a Business Document	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	13.2.8.C and 13.2.11.C	X	N/A
D013	Resumes and Cover Letters	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.4.8D and 1.5.8F	13.2.8.C and 13.2.11.C	X	N/A
D014	Styles	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	N/A	N/A	X	N/A
D015	Careers in the Computer Field	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	N/A	13.1.8.D and 13.1.8.F	X	N/A
D016	Tables, Symbols, and Web Pages	CMP110	MOS Word 77-601 Exam	N/A	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
E	Microsoft Excel	CMP111							
E001	Getting Started with Excel	CMP111	MOS Excel 77-602 Exam	N/A	Read/Content 1.2.8	N/A	N/A	X	X
E002	Creating a Workbook	CMP111	MOS Excel 77-602 Exam	N/A	Read/Content 1.2.8	N/A	N/A	X	X
E003	Using Editing and Formatting Tools	CMP111	MOS Excel 77-602 Exam	N/A	Read/Content 1.2.8	N/A	N/A	X	X
E004	Using Editing and Formatting Tools	CMP111	MOS Excel 77-602 Exam	N/A	Read/Content 1.2.8	N/A	N/A	X	X
E005	Working with Cells, Columns, Rows, and Sheets	CMP111	MOS Excel 77-602 Exam	N/A	Read/Content 1.2.8	N/A	N/A	X	X
E006	Using Simple Formulas and Functions	CMP111	MOS Excel 77-602 Exam	Computation/ Estimation (Spreadsheet) 2.8.1.1	Read/Content 1.2.8	N/A	N/A	X	X
E007	Using Logical and Financial Functions	CMP111	MOS Excel 77-602 Exam	Computation/ Estimation (Spreadsheet) 2.8.1.1	Read/Content 1.2.8	N/A	13.3.8.D and 13.3.11.D	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
E008	Using Advanced Functions	CMP111	MOS Excel 77-602 Exam	Computation/ Estimation (Spreadsheet) 2.8.1.1	Read/Content 1.2.8	N/A	N/A	X	X
E009	Relational and Absolute Addressing	CMP111	MOS Excel 77-602 Exam	Mathematical Reasoning/Connections 2.4.8	Read/Content 1.2.8	N/A	N/A	X	X
E010	Table Lookup Functions	CMP111	MOS Excel 77-602 Exam	Mathematical Reasoning/Connections 2.4.8	Read/Content 1.2.8	N/A	13.3.8.D and 13.3.11.D	X	X
E011	Sorting	CMP111	MOS Excel 77-602 Exam	Mathematical Reasoning/Connections 2.4.8	Read/Content 1.2.8	N/A	N/A	X	N/A
E012	Data Extract	CMP111	MOS Excel 77-602 Exam	Mathematical Reasoning/Connections 2.4.8	Read/Content 1.2.8	N/A	N/A	X	X
E013	Building Charts and Graphs	CMP111	MOS Excel 77-602 Exam	Statistics/Data Analysis 2.6.8	Read/Content 1.2.8	N/A	N/A	X	X
E014	Using and Creating Macros	CMP111	MOS Excel 77-602 Exam	Mathematical Reasoning/Connections 2.4.8	Read/Content 1.2.8	N/A	N/A	X	X
E015	Working with Multiple Worksheets and Lists	CMP111	MOS Excel 77-602 Exam	Mathematical Reasoning/Connections 2.4.8	Read/Content 1.2.8	N/A	N/A	X	N/A
F	Microsoft Access	CMP112							
F001	Creating Databases and Tables	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	N/A	N/A	X	X
F002	Using Input Masks and Lookup Values	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	N/A	N/A	X	N/A
F003	Sorting Data	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	N/A	N/A	X	N/A
F004	Working With Labels	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	N/A	N/A	X	X
F005	Creating and Working with Forms	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	N/A	N/A	X	X
F006	Creating Reports	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	1.5.8F	N/A	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
F007	Grouping and Summary Reports	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
F008	Reports and Totals	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	1.5.8F	N/A	X	X
F009	Database Queries	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	N/A	N/A	X	X
F010	Linking Relational Databases	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	N/A	N/A	X	N/A
F011	Switchboards	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	N/A	N/A		N/A
F012	Linking Multiple Forms	CMP112	MOS Access 77-605 Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	N/A	N/A	X	X
20 - Web Development									
G	Intro to HTML	CMP120							
G001	Use Fonts and colors	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G002	Create an ordered and unordered list	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G003	Create a web link	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G004	Create multiple document web links	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G005	Create an image web link	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G006	Create a table	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
G007	Set table size and backgrounds	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G008	Use column and row spans	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
G009	Create frames	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G010	Use multiple web pages in frames	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G011	Use images in frames	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G012	Link to web pages from frames	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G013	Use text boxes, radio buttons, check boxes and buttons in frames	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
G014	Cyber Security	CMP120	M/S HTML 70-562 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
30 - Console Application/GUI Application Programming									
H	Into to Programming Level I	CMP130							

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
H001	Understand and be able to describe the steps in th	CMP130	M/S VB 70-306 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
H002	Understand the structure of a computer program	CMP130	M/S VB 70-306 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
H003	Interpret and run basic programs.	CMP130	M/S VB 70-306 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
H004	Understand the different variable types used in basic programs.	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H005	Declare, name, and initialize variables.	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H006	Use constants.	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H007	Use the arithmetic operators	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H008	Increment and decrement variables.	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H009	Understand the order of operations.	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
H010	Understand strings	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H011	Use Read / Data statements	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
H012	Intro to Computer Systems	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H013	Input – Processing – Output Concepts	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H014	Operating Systems	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H015	Safety in the Computer Lab	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
H016	Computer Ethics and Computer Crime	CMP130	M/S VB 70-306 Exam	Number Systems/Number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
I	Intro to Programming Level II	CMP131							
I001	Utilize the Print Statement	CMP131	M/S VB 70-306 Exam	Statistics and Data Analysis 2.6.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	N/A	N/A
I002	Utilize the Format Statement	CMP131	M/S VB 70-306 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
I003	Display information in columns	CMP131	M/S VB 70-306 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
I004	Use Input Statements	CMP131	M/S VB 70-306 Exam	Mathematical Reasoning/Comm's 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
I005	Understand how deCMPions are made in programs.	CMP131	M/S VB 70-306 Exam	Mathematical Reasoning/Comm's 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	N/A	N/A
I006	Use Relational operators.	CMP131	M/S VB 70-306 Exam	Mathematical Reasoning/Comm's 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
I007	Use Logical operators.	CMP131	M/S VB 70-306 Exam	Mathematical Reasoning/Comm's 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
I008	Use the IF structure.	CMP131	M/S VB 70-306 Exam	Mathematical Reasoning/Comm's 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
I009	Use the IF...ELSE structure.	CMP131	M/S VB 70-306 Exam	Mathematical Reasoning/Comm's 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
I010	Intro to Networking Concepts	CMP131	M/S VB 70-306 Exam	Mathematical Reasoning/Comm's 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
I011	Intro to Telecommunication Concepts and Etiquette	CMP131	M/S VB 70-306 Exam	Mathematical Reasoning/Comm's 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
I012	Intro to Office Procedures and Techniques	CMP131	M/S VB 70-306 Exam	Mathematical Reasoning/Comm's 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
J	Intro to Programming Level III	CMP132							
J001	Learn how to build structured programs that are divided into functions.	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
J002	Explain the importance of Loops in programs.	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
J003	Use For Loops.	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
J004	Use While Loops.	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
J005	Use Do... While Loops.	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
J006	Use Nest Loops	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
J007	Use Nest Loops.	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
J008	Desktop Publishing Concepts	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
J009	Multimedia Concepts	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
J010	Intro to Customer Service	CMP132	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
K	Intro to Programming Level IV	CMP133							
K001	Use one-dimensional arrays.	CMP133	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
K002	Use multi-dimensional arrays	CMP133	M/S VB 70-306 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
K003	Understand and utilize sorting.	CMP133	M/S VB 70-306 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
K004	Open and close data files.	CMP133	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
K005	Write to data files.	CMP133	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
K006	Read from data files	CMP133	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
K007	Add to the end of a data file.	CMP133	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
K008	Research In Programming	CMP133	M/S VB 70-306 Exam	N/A	1.2.8 and 1.1.8	1.4.8.B,1.4.8.D1. 5.8.B, 1.5.8.D	13.1.5.G and 13.1.11.D	N/A	N/A
K009	Systems Analysis	CMP133	M/S VB 70-306 Exam	N/A	1.2.8 and 1.1.8	1.4.8.B,1.4.8.D1. 5.8.B, 1.5.8.D	13.1.5.G and 13.1.11.D	X	N/A
K010	Software Design Development and Implementation	CMP133	M/S VB 70-306 Exam	N/A	1.2.8 and 1.1.8	1.4.8.B,1.4.8.D1. 5.8.B, 1.5.8.D	13.1.5.G and 13.1.11.D	X	N/A
L	C++.Net Programming Level I	CMP134							
L001	Understand the structure of a C++.Net program	CMP134	M/S C++ 70-571 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
L002	Compile, link, and run C++.Net programs.	CMP134	M/S C++ 70-571 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	N/A	N/A
L003	Understand the different variable types used in C++.Net	CMP134	M/S C++ 70-571 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
L004	Declare, name, and initialize variables and constants.	CMP134	M/S C++ 70-571 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
L005	Increment and decrement variables.	CMP134	M/S C++ 70-571 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
L006	Understand the order of operations	CMP134	M/S C++ 70-571 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
L007	Use mixed data types.	CMP134	M/S C++ 70-571 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
L008	Avoid overflow, underflow, and floating-point errors.	CMP134	M/S C++ 70-571 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
L009	Understand C++.Net strings.	CMP134	M/S C++ 70-571 Exam	Text	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
L010	Use character arrays.	CMP134	M/S C++ 70-571 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
L011	Use console I/O for input and output.	CMP134	M/S C++ 70-571 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M	C++.Net Programming Level II	CMP135							
M001	Understand how deCMPions are made in programs.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	N/A
M002	Understand how true and false is represented in C	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M003	Use Relational operators and Logical operators.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
M004	Use the IF, IF...ELSE and structures.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
M005	Use the Switch structure.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
M006	Use For Loops, While Loops, and Do... While Loops	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M007	Use the Break and Continue statements.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M008	Learn how to build structured programs that are divided into functions.	CMP135	M/S C++ 70-571 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	N/A
M009	Use the IF, IF...ELSE and structures.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
M010	Use the Switch structure.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M011	Use For Loops, While Loops, and Do... While Loops.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
M012	Use the Break and Continue statements.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M013	Learn how to build structured programs that are divided into functions.	CMP135	M/S C++ 70-571 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M014	Understand what is meant by the phrase "scope of variables."	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
M015	Understand how data is passed to functions.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M016	Learn how to use the library functions that are included with the compiler.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M017	Understand the basics of pointers.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M018	Declare pointers.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M019	Use the address-of and dereferencing operators.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M020	Use pointers with character arrays.	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
M021	Use subscript notation	CMP135	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N	C++.Net Programming III	CMP136							
N001	Use one-dimensional arrays.	CMP136	M/S C++ 70-571 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N002	Use parallel arrays	CMP136	M/S C++ 70-571 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
N003	Use multi-dimensional arrays.	CMP136	M/S C++ 70-571 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N004	Use the Size of operator	CMP136	M/S C++ 70-571 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N005	Understand what structures are and how to use them.	CMP136	M/S C++ 70-571 Exam	Computation and Estimation 2.1.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N006	Understand what nested structures are and how to use them.	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N007	Understand various string functions and how to use them.	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N008	Convert strings to numbers.	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N009	Understand the uses for data files	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N010	Understand the difference between sequential-access and random-access data files.	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N011	Open and close data files.	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
N012	Write to data files.	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N013	Read from data files	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N014	Append to the end of a data file.	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
N015	Use multiple data files at the same time	CMP136	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O	C++.Net Programming Level IV	CMP137							
O001	Understand and use doubly-linked lists.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O002	Understand and use circularly-linked lists.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O003	Understand and use stacks and queues	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O004	Understand and use binary trees.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O005	Understand and use recursion.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
O006	Understand and use sequential searching.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O007	Understand and use binary searching.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O008	Search and traverse binary trees.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O009	Understand and use hashing.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O010	Understand and use Selection sort.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O011	Understand and use Bubble sort.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O012	Understand and use Shell sort.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O013	Understand and use Quick sort.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
O014	Understand and use Merge sort.	CMP137	M/S C++ 70-571 Exam	Probability and Predictions 2.7.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
O015	Research In C++ Programming	CMP137	M/S C++ 70-571 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.1.5.G and 13.1.11.D	N/A	N/A
P	C# Programming Level I	CMP230							
P001	Create, compile, build, and execute C# programs	CMP230	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
P002	Debug an application	CMP230	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
P003	Use Identifiers, variables, and literal values	CMP230	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
P004	Identify the use of types, classes, and objects	CMP230	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
P005	Declare and use integer variables	CMP230	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
P006	Declare and use floating point variables	CMP230	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
P007	Declare and use boolean variables	CMP230	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
P008	Declare and use string variables	CMP230	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
P009	Use basic arithmetic operators	CMP230	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
Q	C# Programming Level II	CMP231							
Q001	Recognize and use the order of operations	CMP231	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Q002	Format Output	CMP231	M/S C# 70-316 Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
Q003	Create a method	CMP231	M/S C# 70-316 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Q004	Call a method in a program	CMP231	M/S C# 70-316 Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Q005	Boolean Operations	CMP231	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
Q006	Relational Testing	CMP231	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
Q007	Logical Testing	CMP231	M/S C++ 70-571 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
R	C# Programming III	CMP232							

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
R001	Switch statements	CMP232	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
R002	Using For statements	CMP232	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
R003	Use Do...While statements	CMP232	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
R004	Nested looping	CMP232	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
R005	Creating and using arrays	CMP232	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
R006	Accessing an array's data	CMP232	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
R007	Two dimensional arrays	CMP232	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
S	C# Programming IV	CMP233							
S001	Resizing Window forms	CMP233	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
S002	Programming based on Events	CMP233	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
S003	Adding controls on window forms	CMP233	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
S004	Using a list box	CMP233	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
S005	Using a check box	CMP233	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
S006	Using a combo box	CMP233	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
S007	Using radio buttons	CMP233	M/S C# 70-316 Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
T	Visual Basic Programming Level I	CMP234							
T001	Define objects, attributes, and methods	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T002	Identify the key components of .Net	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T003	Set a property for a control	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T004	Change the size and properties of a form	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
T005	Move and resize labels	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T006	Write the code for a click event	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T007	Use radio buttons and a group box control	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T008	Lock buttons on a form	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T009	Declare and use variables and constants within code	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T010	Convert between data types	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T011	Code a form load event	CMP234	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T012	Use arithmetic expressions	CMP234	M/S VB 70-306 Exam	Number Systems and number Relationship 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
T013	Use the Pmt function	CMP234	M/S VB 70-306 Exam	Computation and Estimation 2.1.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
T014	Use the Format\$ function	CMP234	M/S VB 70-306 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
U	Visual Basic Programming Level II	CMP235							
U001	Use the combo box control	CMP235	M/S VB 70-306 Exam	Computation and Estimation 2.1.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
U002	Code IF – Then – Else and Nested If – Then - else	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
U003	Code select case	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
U004	Use a message box	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
U005	Use relational and logical operators	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
U006	Add additional forms to a project	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
U007	Use List View	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
U008	Use Do Until, Do While and For – Next	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
U009	Code a keyboard event	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
U010	Add a menu bar	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
U011	Add a shortcut menu item	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
U012	Use a picture box	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
U013	Use common dialog controls	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
U014	Use a one dimensional array	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
U015	Write sub procedures	CMP235	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
U016	Designing, creating, and using a class	CMP235	M/S VB 70-306 Exam	Computation and Estimation 2.1.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
V	Visual asic Programming III	CMP236							
V001	Create a new class	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	M/S VB 70-306 Exam	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
V002	Code a get procedure	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	M/S VB 70-306 Exam	1.4.8D and 1.5.8F	N/A	X	N/A
V003	Code a Set property procedure	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
V004	Create a method for a class	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
V005	Accessing Databases	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
V006	Use SQL code to access data with Access tables	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
V007	Code a Try – Fetch to handle exceptions	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
V008	Read records from a database	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
V009	Write records to a database	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
V010	Create reports using SQL coding	CMP236	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
W	Visual Basic Programming IV	CMP237							

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
W001	Creating Web Applications and Writing Data to a Database	CMP237	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
W002	Use SQL Select	CMP237	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
W003	Use SQL Update	CMP237	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
W004	Start a new ASP.Net web application	CMP237	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
W005	Use label, text boxes and buttons on a Web form	CMP237	M/S VB 70-306 Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
W006	Creating and Writing to a Text File	CMP237	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
W007	Start a new console application	CMP237	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
W008	Write text to a text file	CMP237	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
W009	Read text from a text file	CMP237	M/S VB 70-306 Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
W010	Research In Visual Basic.NET Programming	CMP237	M/S VB 70-306 Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	N/A	N/A
X	Java Programming Level I	CMP330							
X001	Describe the characteristics of Java	CMP330	SUN Java CX- 310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X002	Explain the uses of Java and identify types of Java programs	CMP330	SUN Java CX- 310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X003	Differentiate between objects, attributes, methods and events	CMP330	SUN Java CX- 310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X004	Write simple Java Application	CMP330	SUN Java CX- 310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X005	Understand the different types and uses of comments	CMP330	SUN Java CX- 310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X006	Use the print O method	CMP330	SUN Java CX- 310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X007	Understand common Java eRead/Independ 1.1.8 Read/Content 1.2.8ors	CMP330	SUN Java CX- 310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X008	Edit Java source code	CMP330	SUN Java CX- 310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
X009	Print source code	CMP330	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
X010	Differentiate between an application and an applet	CMP330	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X011	Write code to display a graphic, text, color, and the date in an applet	CMP330	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X012	Create an HTML host document	CMP330	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
X013	Run a Java applet	CMP330	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y	Java Programming II	CMP331							
Y001	Identify, declare and use primitive data types	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y002	Use the read () method to handle user input	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y003	Convert strings to numbers using the parse() method	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y004	Use assignment statements to store data with proper identifiers	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
Y005	Use operators and parentheses correctly in numeric and conditional expressions	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y006	Round an answer using the round() method	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y007	Implement action listener to handle events	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y008	Add interface components to an applet	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y009	Use the init() and paint() methods to load an applet interface	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y010	Use the action Performed method	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y011	Run and test an interactive applet	CMP331	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Y012	Design a program using methods	CMP331	SUN Java CX-310019	Statistics and Data Analysis 2.6.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Z	Java Programming III	CMP332							
Z001	Code a selection structure to make deCMPions in code	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
Z002	Describe and use the logical operators AND, OR, and N/AT	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
Z003	Code a try and catch statement to handle operators	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Z004	Code a repetition structure using the while statement	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
Z005	Code a switch statement to test for multiple values in data	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Z006	Format numbers using the format() method	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Z007	Use a Checkbox and Check box Group in user interface	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
Z008	Declare and construct using correct notion	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Z009	Code a counter-controlled loop using the for statement	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
Z010	Use methods with Frame, Choice, and Text Area components	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
Z011	Include a menu system in a GUI application	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
Z012	Manipulate Button	CMP332	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
Z013	Differentiate between the get Action Command() and the get Source() methods	CMP322	SUN Java CX-310019	Statistics and Data Analysis 2.6.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA	Java Programming IV	CMP333							
AA01	Write code to search for which component was clicked	CMP333	SUN Java CX-310019	Statistics and Data Analysis 2.6.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA02	Program multiple case solutions	CMP333	SUN Java CX-310019	Statistics and Data Analysis 2.6.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA03	Change the icon in a Java program's title bar	CMP333	SUN Java CX-310019	Statistics and Data Analysis 2.6.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA04	Differentiate between AWT and Swing components	CMP333	SUN Java CX-310019	Statistics and Data Analysis 2.6.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA05	Create a J Frame application	CMP333	SUN Java CX-310019	Algebra and Functions 2.8.1.1	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA06	Sort data in parallel	CMP333	SUN Java CX-310019	Algebra and Functions 2.8.1.1	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
AA07	Perform linear searches	CMP333	SUN Java CX-310019	Algebra and Functions 2.8.1.1	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA08	Explain the use of volatile and non volatile data	CMP333	SUN Java CX-310019	Algebra and Functions 2.8.1.1	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA09	Differentiate between sequential and random access files	CMP333	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA10	Create a sequential data file	CMP333	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA11	Use the write() method to send data to a secondary storage device	CMP333	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA12	Verify the existence of a data file	CMP333	SUN Java CX-310019	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
AA13	Research In Java Programming	CMP333	SUN Java CX-310019	N/A	1.2.8 and 1.1.8	1.4.8B and 1.4.8D	N/A	N/A	N/A
40 - COBOL and Oracle Programing									
BB	COBOL Programming Level I	CMP340							
BB01	Introduction to COBOL – Identification, Environment, Data and Procedure Divisions	CMP340	MicroFocus COBOL Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB02	Create, compile, link, run, and print a COBOL program	CMP340	MicroFocus COBOL Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
BB03	Structured coding concepts	CMP340	MicroFocus COBOL Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB04	The Select Statement	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB05	Open and Close statements	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB06	The Read Statement	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB07	The Move Statement	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB08	The Write Statement	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB09	Signed numbers	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB10	Arithmetic statements – the add statement	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB11	Arithmetic statements – the subtract statement	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
BB12	Arithmetic Statements – the multiply statement	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
BB13	Arithmetic Statements – the divide statement	CMP340	MicroFocus COBOL Exam	Number Systems and Number Relationships 2.1.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC	COBOL Programming Level II	CMP341							
CC01	If statement	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
CC02	Relational conditions	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
CC03	Nested if statement	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.D and 13.3.11.D	X	X
CC04	Sign class conditions	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC05	Disk concepts	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC06	Sorting statement	CMP341	MicroFocus COBOL Exam	Algebra and Functions 2.8.1.1	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC07	File sequence statements	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
CC08	Sort-Work file statement	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC09	Go to and exit statements	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC10	Sort utilities	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC11	Reports and Control Breaks	CMP341	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC12	Control break reports	CMP341	MicroFocus COBOL Exam	Algebra and Functions 2.8.1.1	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC13	Date and time break reports	CMP341	MicroFocus COBOL Exam	Algebra and Functions 2.8.1.1	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
CC14	Multilevel control break reports	CMP341	MicroFocus COBOL Exam	Algebra and Functions 2.8.1.1	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
DD	COBOL Programming Level III	CMP342							
DD01	Tables	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
DD02	Occurs clause	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
DD03	Perform varying technique	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
DD04	Redefines clause	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
DD05	Menu driven programs	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
DD06	Subprograms	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
DD07	Chains	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
DD08	Data validation techniques	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
DD09	Data tables	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
DD10	Binary search	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
DD11	Randomized tables	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
DD12	Search procedures	CMP342	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
EE	COBOL Programming Level IV	CMP343							
EE01	Interactive file processing	CMP343	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A
EE02	Sequential File Maintenance	CMP343	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A
EE03	Merging files	CMP343	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A
EE04	Updating records	CMP343	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	X
EE05	Deleting records	CMP343	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	X
EE06	Appending records	CMP343	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	X
EE07	Creating a file maintenance system	CMP343	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A
EE08	Creating an inventory control file menu system	CMP343	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
EE09	Research In COBOL Programming	CMP343	MicroFocus COBOL Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.1.5.G and 13.1.11.D	N/A	N/A
FF	Oracle Level I	CMP345							
FF01	Entities	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
FF02	Instances	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
FF03	Attributes	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
FF04	Relationships	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
FF05	Entity Relationship Modeling	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
FF06	Data and Information	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
FF07	Tracking Attributes	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
FF08	Normalization	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
FF09	Constraints	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
FF10	Data Modeling	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
FF11	Relationships of Multiple Tables	CMP345	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
GG	Oracle Level II	CMP346							
GG01	Introduction to SQL Commands	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
GG02	The SELECT Statement	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
GG03	Arithmetic Expressions	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
GG04	Operator Precedence	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
GG05	NULL Values	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
GG06	Concatenation	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
GG07	BETWEEN – IN - LIKE	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
GG08	AND – OR - NOT	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
GG09	ORDER BY Clause	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
GG10	Single Row Functions	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
GG11	Displaying Data from Multiple Tables	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
GG12	Join Function	CMP346	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
HH	Oracle Level III	CMP347							
HH01	Group Functions	CMP347	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
HH02	AVG and SUM Functions	CMP347	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
HH03	COUNT Function	CMP347	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
HH04	DISTINCT Function	CMP347	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
HH05	MIN and MAX Functions	CMP347	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
HH06	NVL Function	CMP347	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
HH07	GROUP BY Function	CMP347	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
HH08	The HAVING Clause	CMP347	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
HH09	Subqueries	CMP347	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
II	Oracle Level IV	CMP348							
II01	Multiple Row Functions	CMP348	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
II02	ANY and ALL Functions	CMP348	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
II03	DEFINE and UNDEFINE Functions	CMP348	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
I104	Column Formatting	CMP348	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
I105	TTITLE and BTITLE	CMP348	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
I106	Adding new rows to a table	CMP348	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
I107	UPDATE Command	CMP348	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
I108	DELETE Command	CMP348	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
I109	Subqueries	CMP348	OCP 1Z0-032	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
50- SAS Programming									
JJ	SAS Programming I	CMP350							
JJ01	Introduction to SAS Programs	CMP350	SAS Base Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
JJ02	Running SAS Programs	CMP350	SAS Base Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
JJ03	Fundamental Concepts	CMP350	SAS Base Exam	N/A	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
JJ04	Correct Syntax Errors	CMP350	SAS Base Exam	Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A
JJ05	Data Sets and Libraries	CMP350	SAS Base Exam	Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A
JJ06	PROC PRINT	CMP350	SAS Base Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
JJ07	Sequencing and Grouping	CMP350	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
KK	SAS Programming II	CMP351							
KK01	Reading the SAS Error LOG	CMP351	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A
KK02	Customizing Report Appearance	CMP351	SAS Base Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	1.5.8F	N/A	X	X
KK03	Creating HTML Reports	CMP351	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	N/A
KK04	Reading Raw Data Files	CMP351	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
KK05	Examining Data	CMP351	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
KK06	Assigning Variable Attributes	CMP351	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
KK07	Reading Delimited Raw Data Files	CMP351	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
KK08	Reading Raw Data With Missing Values	CMP351	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	X	X
KK09	Reading Raw Data With The Import Wizard	CMP351	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	N/A	N/A	N/A
LL	SAS Programming III	CMP352							
LL01	Reading SAS Data Sets and Creating Variables	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A
LL02	Conditional Processing	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8D and 1.5.8F	13.3.8.C and 13.3.11.C	X	X
LL03	Intro Summary Reports	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
LL04	PROC FREQ Summary Reports	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
LL05	PROC MEANS Summary Reports	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A

Erie County Technical School
Computer Programming Duty/Task List

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
LL06	Output Multiple Variables	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
LL07	Writing Multi Data Sets	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
LL08	Accumulating Variables	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
LL09	Accumulating Totals	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	X
LL10	Controlling When a Report Loads	CMP352	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8 and 1.5.8F	13.3.8.C and 13.3.11.C	X	N/A
MM	SAS Programming IV	CMP353							
MM01	Manipulating Character Values	CMP353	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
MM02	Manipulating Numeric Values	CMP353	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
MM03	Manipulating Numeric Values Based on Dates	CMP353	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
MM04	Converting Different Variable Types	CMP353	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A

**Erie County Technical School
Computer Programming Duty/Task List**

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test
MM05	Do-Loop Procssing	CMP353	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8 and 1.5.8F	N/A	X	X
MM06	Array Processing	CMP353	SAS Base Exam	Algebra and Functions 2.8.8	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8 and 1.5.8F	N/A	X	X
MM07	Concating SAS Data Sets	CMP353	SAS Base Exam	Computation and Estimation 2.1.11	Read/Content 1.2.8	1.5.8F	N/A	X	N/A
MM08	Merging SAS Data Sets	CMP353	SAS Base Exam	Mathematical Reasoning and Connections 2.4.11	Read/Independ 1.1.8 Read/Content 1.2.8	N/A	N/A	X	N/A
MM09	SQL Procedures	CMP353	SAS Base Exam	Problem Solving and Comm.'s 2.5.11	Read/Independ 1.1.8 Read/Content 1.2.8	1.4.8 and 1.5.8F	N/A	X	X
MM10	Graphs in SAS	CMP353	SAS Base Exam	Statistics/Data Analysis 2.6.8	Read/Content 1.2.8	N/A	N/A	X	N/A

**Erie County Technical School
Computer Programming Duty/Task List**

This program includes instruction in a variety of programming languages.				Pennsylvania Standards				NOCTI Alignment Test # 8092	
Duty Area and Task #	Content Areas, Course Titles and Task Statements	Course Number	National Skill Standards	Math	Reading	Writing	Career Education & Work	Written Test	Performance Test