

COURSE INF3010: **HARDWARE & SOFTWARE ANALYSIS**

Level: Advanced

Prerequisite: None

Description: Students analyze, compare and evaluate hardware and software based on user requirements.

Parameters: Access to computer equipment, appropriate software, the Internet and support materials.

Supporting Course: NET2020: Workstation Technology & Operations

Outcomes: The student will:

1. analyze and compare computer hardware and operating systems

- 1.1 demonstrate an advanced knowledge of the components that make up a computer system; e.g., central processing unit, memory, graphics card, expandability, input, output, ports
- 1.2 collect and compare information regarding operating systems; e.g., speed, cost, size, capabilities, warranties, restrictions
- 1.3 assess and compare system software and firmware
- 1.4 collect and compare information on computing hardware formats; e.g., desktop, laptop, tablet, personal digital assistant
- 1.5 assess and compare application software; e.g., data, text, graphics
- 1.6 discuss compatibility issues between computers and peripherals
- 1.7 access support manuals, documentation and resources

2. present research on emerging computing technologies; e.g., voice input, syncing, Bluetooth, touch screen, cloud computing

3. prepare and present a report recommending hardware and software configurations that meet specified criteria

- 3.1 identify computer user needs and variables
- 3.2 research potential alternatives and identify sources of information
- 3.3 compare and evaluate hardware and software compatibility with identified user needs
- 3.4 provide recommendations and rationale for particular hardware and software components based on a needs assessment that addresses:
 - 3.4.1 client needs
 - 3.4.2 information base
 - 3.4.3 implementation time lines
 - 3.4.4 financial costs
 - 3.4.5 work station requirements
 - 3.4.6 in-service training
 - 3.4.7 support services
 - 3.4.8 warranties
 - 3.4.9 legal restrictions
- 3.5 make and support recommendations using:
 - 3.5.1 appropriate industry standard format
 - 3.5.2 acceptable content and description
 - 3.5.3 appropriate terminology

- 4. apply consistent and appropriate work station routines**
 - 4.1 demonstrate good health and safety; e.g., posture, positioning of hardware and furniture
 - 4.2 employ practices that security for hardware, software, supplies and personal work
- 5. demonstrate basic competencies**
 - 5.1 demonstrate fundamental skills to:
 - 5.1.1 communicate
 - 5.1.2 manage information
 - 5.1.3 use numbers
 - 5.1.4 think and solve problems
 - 5.2 demonstrate personal management skills to:
 - 5.2.1 demonstrate positive attitudes and behaviours
 - 5.2.2 be responsible
 - 5.2.3 be adaptable
 - 5.2.4 learn continuously
 - 5.2.5 work safely
 - 5.3 demonstrate teamwork skills to:
 - 5.3.1 work with others
 - 5.3.2 participate in projects and tasks
- 6. create a transitional strategy to accommodate personal changes and build personal values**
 - 6.1 identify short-term and long-term goals
 - 6.2 identify steps to achieve goals

COURSE INF3060: WORD PROCESSING 3

Level: Advanced

Prerequisite: INF2050: Word Processing 2

Description: Students master their skills in the proper use of word processing software, including document creation, editing and printing of properly formatted documents.

Parameters: Access to a computer work station and word processing software.

Note: Students will meet all objectives outlined in the Microsoft Office Suite training. Upon successful completion of the Word Processing 1, 2 and 3 courses, students could write the Microsoft Specialist Exam for certification.

Supporting Courses: INF1030: Word Processing 1

Outcomes: The student will:

1. create and customize documents

- 1.1 create, format and edit documents; e.g., multiple page letter, multiple page report, tables suitable for personal and business use applications, new document setup, common templates and forms such as purchase order, expense reports, travel requests, medical forms, Web page, e-mail
- 1.2 lay out documents including:
 - 1.2.1 modify fields in template form
 - 1.2.2 manipulate layout
 - 1.2.3 use objects and text boxes
 - 1.2.4 create and manage documents and subdocuments
 - 1.2.5 create and use a theme
- 1.3 make documents and content easier to find including:
 - 1.3.1 insert and edit hyperlinks to Web pages

2. format content

- 2.1 format text and paragraphs including:
 - 2.1.1 reveal source codes to edit and format
 - 2.1.2 use language features; e.g., thesaurus, dictionary, research
 - 2.1.3 clear formats from a paragraph
- 2.2 manipulate text by:
 - 2.2.1 controlling paragraph behaviour
 - 2.2.2 manipulating columns
 - 2.2.3 adding text to a shape
- 2.3 control pagination by:
 - 2.3.1 manipulating advanced page settings; e.g., odd/even page numbers, formats

- 3. work with visual content**
 - 3.1 insert and format illustrations including:
 - 3.1.1 borders and shading
 - 3.1.2 flowcharts
 - 3.1.3 pictures
- 4. organize content**
 - 4.1 use tables and lists to organize content including:
 - 4.1.1 perform calculations in table cells
 - 4.1.2 sort contents in a list
 - 4.1.3 change formatting of a list
 - 4.1.4 insert and update a table of figures
 - 4.2 insert and format captions by:
 - 4.2.1 adding captions to a document; e.g., figure, equation, table
 - 4.2.2 editing and deleting captions
 - 4.3 merge documents and data sources including:
 - 4.3.1 compare and merge two versions of a document
 - 4.3.2 combine changes made by different authors
- 5. review documents**
 - 5.1 manage tracked changes
 - 5.2 insert, modify and delete comments
 - 5.3 reveal source codes
- 6. share and secure content**
 - 6.1 prepare documents for sharing
 - 6.2 restrict and protect document access
 - 6.3 make sure a document is safe to share
- 7. apply consistent and appropriate work station routines**
 - 7.1 demonstrate good health and safety; e.g., posture, positioning of hardware and furniture
 - 7.2 employ practices that security for hardware, software, supplies and personal work
- 8. demonstrate basic competencies**
 - 8.1 demonstrate fundamental skills to:
 - 8.1.1 communicate
 - 8.1.2 manage information
 - 8.1.3 use numbers
 - 8.1.4 think and solve problems
 - 8.2 demonstrate personal management skills to:
 - 8.2.1 demonstrate positive attitudes and behaviours
 - 8.2.2 be responsible
 - 8.2.3 be adaptable
 - 8.2.4 learn continuously
 - 8.2.5 work safely
 - 8.3 demonstrate teamwork skills to:
 - 8.3.1 work with others
 - 8.3.2 participate in projects and tasks
- 9. create a transitional strategy to accommodate personal changes and build personal values**
 - 9.1 identify short-term and long-term goals
 - 9.2 identify steps to achieve goals

COURSE INF3080: PROJECT MANAGEMENT TOOLS

Level: Advanced

Prerequisite: None

Description: Students develop competence in using information management systems software, such as project management, schedules and planners for either personal or workplace applications.

Parameters: Access to an appropriate computer work station, a storage medium, information management software and support materials.

Outcomes: The student will:

1. demonstrate the ability to use information management software

- 1.1 plan projects, including setting goals, time lines and determining resource needs by:
 - 1.1.1 organizing relevant data; e.g., building a house, putting on a play, building a multimedia presentation
 - 1.1.2 defining basic project information including identifying all key tasks, linking tasks (where appropriate) and assigning task duration
 - 1.1.3 organizing tasks into an outline and detailing each subtask including viewing different levels of task detail (e.g., expanding/collapsing), setting milestones and creating a base calendar
 - 1.1.4 creating resource lists including entering cost information, assigning resources and applying appropriate constraints
- 1.2 monitor projects, including time and resource management by:
 - 1.2.1 identifying critical issues
 - 1.2.2 resolving time restrictions
 - 1.2.3 resolving resource constraints
- 1.3 adjust project files, as appropriate, including:
 - 1.3.1 sort and filter data
- 1.4 prepare project reports

2. describe the features of the information management software used

- 2.1 demonstrate the information management tool to others
- 2.2 describe the capabilities of the tool
- 2.3 describe how a person or business can benefit from the use of the management tool

3. apply consistent and appropriate work station routines

- 3.1 demonstrate good health and safety; e.g., posture, positioning of hardware and furniture
- 3.2 employ practices that security for hardware, software, supplies and personal work

4. demonstrate basic competencies

- 4.1 demonstrate fundamental skills to:
 - 4.1.1 communicate
 - 4.1.2 manage information
 - 4.1.3 use numbers
 - 4.1.4 think and solve problems

- 4.2 demonstrate personal management skills to:
 - 4.2.1 demonstrate positive attitudes and behaviours
 - 4.2.2 be responsible
 - 4.2.3 be adaptable
 - 4.2.4 learn continuously
 - 4.2.5 work safely
- 4.3 demonstrate teamwork skills to:
 - 4.3.1 work with others
 - 4.3.2 participate in projects and tasks
- 5. create a transitional strategy to accommodate personal changes and build personal values**
 - 5.1 identify short-term and long-term goals
 - 5.2 identify steps to achieve goals

COURSE INF3095: PRODUCTIVITY SOFTWARE INTEGRATION

Level: Advanced

Prerequisites: INF3060: Word Processing 3
INF2070: Database 2
INF2080: Spreadsheet 2
INF1070: Digital Presentation

Description: Students enhance production skills by integrating data from a variety of sources into a finished product.

Parameters: Access to appropriate computer equipment, software and support materials.

Outcomes: The student will:

- 1. demonstrate competencies in word processing, spreadsheet, database and presentation software by creating integrated products**
 - 1.1 integrate data from a spreadsheet into a text document
 - 1.2 integrate text from a document into a spreadsheet
 - 1.3 create a linked object in a spreadsheet
 - 1.4 import data and formatting from a variety of source files into a spreadsheet
 - 1.5 import spreadsheet data into a database
 - 1.6 link a spreadsheet to a database table
 - 1.7 export database data to a spreadsheet
 - 1.8 export database data to a text document
 - 1.9 import data from a text document into a database
 - 1.10 import an outline from a text document into a presentation
 - 1.11 insert formatted text into a presentation
 - 1.12 import linked objects into a presentation
- 2. demonstrate competence in producing integrated documents, spreadsheets, databases and presentations**
 - 2.1 describe the purpose of the product including:
 - 2.1.1 target audience
 - 2.1.2 single/multiple/presentation copy
 - 2.2 apply word processing, spreadsheet, database and presentation commands, as appropriate, to import, export and link word processing, spreadsheet, database and presentation files
 - 2.3 manipulate word processing, spreadsheet, database and presentation files from drafts including:
 - 2.3.1 edited, unedited and unformatted
 - 2.3.2 edited and formatted
 - 2.4 follow instructions to customize/personalize existing text and data files including:
 - 2.4.1 load, redesign, reformat or modify existing templates and files containing information from spreadsheet, presentation, Web or graphics files
 - 2.4.2 revise documents to be aesthetically pleasing and well-formatted
 - 2.4.3 save file for print or display in audience-appropriate format
- 3. apply consistent and appropriate work station routines**
 - 3.1 demonstrate good health and safety; e.g., posture, positioning of hardware and furniture
 - 3.2 employ practices that security for hardware, software, supplies and personal work

4. demonstrate basic competencies

- 4.1 demonstrate fundamental skills to:
 - 4.1.1 communicate
 - 4.1.2 manage information
 - 4.1.3 use numbers
 - 4.1.4 think and solve problems
- 4.2 demonstrate personal management skills to:
 - 4.2.1 demonstrate positive attitudes and behaviours
 - 4.2.2 be responsible
 - 4.2.3 be adaptable
 - 4.2.4 learn continuously
 - 4.2.5 work safely
- 4.3 demonstrate teamwork skills to:
 - 4.3.1 work with others
 - 4.3.2 participate in projects and tasks

5. create a transitional strategy to accommodate personal changes and build personal values

- 5.1 identify short-term and long-term goals
- 5.2 identify steps to achieve goals

COURSE INF3910: INF PROJECT D

Level: Advanced

Prerequisite: None

Description: Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Parameters: Advanced project courses must connect with a minimum of two CTS courses, one of which must be at the advanced level and be in the same occupational area as the project course. The other CTS course(s) must be at least at the intermediate level from any occupational area.

Project courses cannot be connected to other project courses or practicum courses.

All projects and/or performances, whether teacher- or student-led, must include a course outline or student proposal.

Outcomes:

The teacher/student will:

- 1. identify the connection between this project course and two or more CTS courses**
 - 1.1 identify the outcome(s) from each identified CTS course that support the project and/or performance deliverables
 - 1.2 explain how these outcomes are being connected to the project and/or performance deliverables
- 2. propose the project and/or performance**
 - 2.1 identify the project and/or performance by:
 - 2.1.1 preparing a plan
 - 2.1.2 clarifying the purposes
 - 2.1.3 defining the deliverables
 - 2.1.4 specifying time lines
 - 2.1.5 explaining terminology, tools and processes
 - 2.1.6 defining resources; e.g., materials, costs, staffing
 - 2.2 identify and comply with all related health and safety standards
 - 2.3 define assessment standards (indicators for success)
 - 2.4 present the proposal and obtain necessary approvals

The student will:

- 3. meet goals as defined within the plan**
 - 3.1 complete the project and/or performance as outlined
 - 3.2 monitor the project and/or performance and make necessary adjustments
 - 3.3 present the project and/or performance, indicating the:
 - 3.3.1 outcomes attained
 - 3.3.2 relationship of outcomes to goals originally set

- 3.4 evaluate the project and/or performance, indicating the:
 - 3.4.1 processes and strategies used
 - 3.4.2 recommendations on how the project and/or performance could have been improved
- 4. demonstrate basic competencies**
 - 4.1 demonstrate fundamental skills to:
 - 4.1.1 communicate
 - 4.1.2 manage information
 - 4.1.3 use numbers
 - 4.1.4 think and solve problems
 - 4.2 demonstrate personal management skills to:
 - 4.2.1 demonstrate positive attitudes and behaviours
 - 4.2.2 be responsible
 - 4.2.3 be adaptable
 - 4.2.4 learn continuously
 - 4.2.5 work safely
 - 4.3 demonstrate teamwork skills to:
 - 4.3.1 work with others
 - 4.3.2 participate in projects and tasks
- 5. create a transitional strategy to accommodate personal changes and build personal values**
 - 5.1 identify short-term and long-term goals
 - 5.2 identify steps to achieve goals

COURSE INF3920: INF PROJECT E

Level: Advanced

Prerequisite: None

Description: Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Parameters: Advanced project courses must connect with a minimum of two CTS courses, one of which must be at the advanced level and be in the same occupational area as the project course. The other CTS course(s) must be at least at the intermediate level from any occupational area.

Project courses cannot be connected to other project courses or practicum courses.

All projects and/or performances, whether teacher- or student-led, must include a course outline or student proposal.

Outcomes:

The teacher/student will:

- 1. identify the connection between this project course and two or more CTS courses**
 - 1.1 identify the outcome(s) from each identified CTS course that support the project and/or performance deliverables
 - 1.2 explain how these outcomes are being connected to the project and/or performance deliverables
- 2. propose the project and/or performance**
 - 2.1 identify the project and/or performance by:
 - 2.1.1 preparing a plan
 - 2.1.2 clarifying the purposes
 - 2.1.3 defining the deliverables
 - 2.1.4 specifying time lines
 - 2.1.5 explaining terminology, tools and processes
 - 2.1.6 defining resources; e.g., materials, costs, staffing
 - 2.2 identify and comply with all related health and safety standards
 - 2.3 define assessment standards (indicators for success)
 - 2.4 present the proposal and obtain necessary approvals

The student will:

- 3. meet goals as defined within the plan**
 - 3.1 complete the project and/or performance as outlined
 - 3.2 monitor the project and/or performance and make necessary adjustments
 - 3.3 present the project and/or performance, indicating the:
 - 3.3.1 outcomes attained
 - 3.3.2 relationship of outcomes to goals originally set

- 3.4 evaluate the project and/or performance, indicating the:
 - 3.4.1 processes and strategies used
 - 3.4.2 recommendations on how the project and/or performance could have been improved
- 4. demonstrate basic competencies**
 - 4.1 demonstrate fundamental skills to:
 - 4.1.1 communicate
 - 4.1.2 manage information
 - 4.1.3 use numbers
 - 4.1.4 think and solve problems
 - 4.2 demonstrate personal management skills to:
 - 4.2.1 demonstrate positive attitudes and behaviours
 - 4.2.2 be responsible
 - 4.2.3 be adaptable
 - 4.2.4 learn continuously
 - 4.2.5 work safely
 - 4.3 demonstrate teamwork skills to:
 - 4.3.1 work with others
 - 4.3.2 participate in projects and tasks
- 5. create a transitional strategy to accommodate personal changes and build personal values**
 - 5.1 identify short-term and long-term goals
 - 5.2 identify steps to achieve goals

COURSE INF3950: INF ADVANCED PRACTICUM

Level: Advanced

Prerequisite: None

Description: Students apply prior learning and demonstrate the attitudes, skills and knowledge required by an external organization to achieve a credential/credentials or an articulation.

Parameters: This practicum course, which may be delivered on- or off-campus, should be accessed only by students continuing to work toward attaining a recognized credential/credentials or an articulation offered by an external organization. This course must be connected to at least one CTS course from the same occupational area and cannot be used in conjunction with any introductory (1XXX) level course. A practicum course cannot be delivered as a stand-alone course, cannot be combined with a CTS project course and cannot be used in conjunction with the Registered Apprenticeship Program or the Green Certificate Program.

Outcomes: The student will:

- 1. perform assigned tasks and responsibilities, as required by the organization granting the credential(s) or articulation**
 - 1.1 identify regulations and regulatory bodies related to the credential(s) or articulation
 - 1.2 describe personal roles and responsibilities, including:
 - 1.2.1 key responsibilities
 - 1.2.2 support functions/responsibilities/expectations
 - 1.2.3 code of ethics and/or conduct
 - 1.3 describe personal work responsibilities and categorize them as:
 - 1.3.1 routine tasks; e.g., daily, weekly, monthly, yearly
 - 1.3.2 non-routine tasks; e.g., emergencies
 - 1.3.3 tasks requiring personal judgement
 - 1.3.4 tasks requiring approval of a supervisor
 - 1.4 demonstrate basic employability skills and perform assigned tasks and responsibilities related to the credential(s) or articulation
- 2. analyze personal performance in relation to established standards**
 - 2.1 evaluate application of the attitudes, skills and knowledge developed in related CTS courses
 - 2.2 evaluate standards of performance in terms of:
 - 2.2.1 quality of work
 - 2.2.2 quantity of work
 - 2.3 evaluate adherence to workplace legislation related to health and safety
 - 2.4 evaluate the performance requirements of an individual who is trained, experienced and employed in a related occupation in terms of:
 - 2.4.1 training and certification
 - 2.4.2 interpersonal skills
 - 2.4.3 technical skills
 - 2.4.4 ethics

3. demonstrate basic competencies

3.1 demonstrate fundamental skills to:

- 3.1.1 communicate
- 3.1.2 manage information
- 3.1.3 use numbers
- 3.1.4 think and solve problems

3.2 demonstrate personal management skills to:

- 3.2.1 demonstrate positive attitudes and behaviours
- 3.2.2 be responsible
- 3.2.3 be adaptable
- 3.2.4 learn continuously
- 3.2.5 work safely

3.3 demonstrate teamwork skills to:

- 3.3.1 work with others
- 3.3.2 participate in projects and tasks

4. create a transitional strategy to accommodate personal changes and build personal values

- 4.1 identify short-term and long-term goals
- 4.2 identify steps to achieve goals