

Course Information

Course Number: **AOT 250**
Course Title: **Advanced Information Processing**
Lec Hours/Week: **3.0**
Lab Hours/Week: **0.0**
Credit Hours: **3.0**

DL Attendance/VA Statement Textbook Information

Course Description

This course emphasizes complex applications of information processing software using advanced features and concepts.

Course Competencies

Module 1

Advanced Formatting and Integration of Data in Spreadsheets Using Microsoft Excel

1. The student will be able to organize and analyze data using Excel to
 - a. add subtotals to worksheet data
 - b. create and apply advanced filters
 - c. group and outline data
 - d. add data validation criteria to cells
 - e. apply lookup and reference functions
 - f. create and edit database functions
 - g. define, modify, and apply name ranges
 - h. add, show, close, edit, and merge scenarios
 - i. perform what-if analysis
 - j. apply the Solver add-in
 - k. create pivot tables and pivot chart reports
 - l. watch and evaluate formulas
 - m. trace formula precedents, dependents, and errors
 - n. locate invalid data and formulas
 - o. structure workbooks using XML.
2. The student will be able to format data and content using Excel to
 - a. create and format custom data formats
 - b. apply conditional formatting
 - c. format and resize graphics using cropping and rotating tools
 - d. apply formats to charts and diagrams
3. The student will be able to collaborate using Excel to
 - a. create and modify shared workbooks
 - b. add protection to cells, worksheets, and workbooks
 - c. apply workbook security settings
 - d. merge workbooks
 - e. track, reject, and accept changes
4. The student will be able to manage data and workbooks using Excel to
 - a. create and edit templates
 - b. consolidate data from two or more worksheets

- c. define and modify workbook properties
5. The student will be able to customize the software Excel to
- a. modify default settings
 - b. change the default file location
 - c. set the default number of worksheets

Module 2

Advanced Tables, Forms, Queries, Reports and Integration of Data in databases Using Microsoft Access

1. The student will be able to create and modify advanced tables using Access to
 - a. backup a database
 - b. compact and repair a database
 - c. propagate field properties
 - d. create a table in design view and use the table wizard
 - e. create and modify an input mask for a field
 - f. create and modify lookup fields in a table
 - g. define a validation rule and enter validation text

2. The student will be able to create and modify forms using Microsoft Access to
 - a. apply error checking
 - b. apply themes to controls and views
 - c. create a form using design view and form wizard
 - d. insert and modify a graphic on a form
 - e. customize the form header, detail, and footer
 - f. move and resize control objects
 - g. modify a control object's properties
 - h. apply subform control to synchronize two tables
 - i. modify a subform
 - j. create a switchboard page

3. The student will be able to refine queries using Microsoft Access to
 - a. refine a query using the filter by selection
 - b. create and apply advanced filters
 - c. create a totals query and custom calculation query
 - d. create a crosstab, parameter, and action query
 - e. specify multiple criteria in a query using AND and OR expressions
 - f. modify properties of fields in queries

4. The student will be able to apply the advanced report features using Microsoft Access to
 - a. apply error checking in reports
 - b. create and modify a report in design view
 - c. sort and group records in a report
 - d. add graphics to a report
 - e. modify report, section, and control properties
 - f. calculate a total or average in a report
 - g. embed a subreport in a main report

5. The student will be able to define relationships in a database using Microsoft Access to
 - a. create one to many and many to many relationships between tables
 - b. print the relationships window
 - c. edit existing relationships between tables
 - d. set cascade update and cascade delete to update and delete records
 - e. specify join properties for a relationship

- f. create and edit single-field and multiple field indexes
6. The student will be able to apply Access tools using Microsoft Access to
- a. apply macro security
 - b. apply autocorrect
 - c. set passwords for database
 - d. add permissions to a database
 - e. encode and decode a database
 - f. set startup options
 - g. replicate a database
 - h. create a command button
 - i. create a macro

Minimum Standards

Students are to complete all exercises in each chapter and selected assessment exercises at the end of each chapter. The assessment exercises are to be submitted and reviewed by the instructor. Points will be awarded for submitting accurate assessments. Students do not have an opportunity to resubmit corrected assessments for credit.

Students will be given two hands-on tests for each module. Students who receive less than 60% may restudy the material and retake the tests. The average of the original test and retest will constitute the grade on the test.

Students will take two theory tests for each module. Students who receive less than 60% may restudy the material and retake the tests. The average of the original test and retest will constitute the grade on the test.

Course Requirements

Attendance

The attendance policy as stated in the *York Technical College Catalog and Handbook* will be enforced. Attendance is required on test days unless the student has a doctor's excuse, etc., indicating an unusual circumstance for absence. If a student must be absent on a test day, the student should make arrangements with the instructor to take the test before the absence.

Student Conduct

Students are responsible for adhering to all student conduct policies as outlined in the college catalog.

Methods of Instruction

The student will be provided with a list of required assignments selected from a required textbook, as well as due dates. Prerecorded documents will be provided on a CD to complete those assignments.

Evaluation Strategies/Grading

Modules may be completed in either order. Students may exempt either of the two modules by completing both the theory and hands-on exams with a score of at least 75 percent on each exam.

Exercises: The student is to complete ALL laboratory exercises, including selected assessment exercises. Print and submit only the requested assessment exercises.

Hands on Tests: Two hands-on tests will be administered for each module. Each test counts 10% towards the student's final course grade.

Theory Tests: Two theory tests will be administered for each module. Each test counts 10% towards the student's final course grade.

MODULE	TITLE	PERCENT
Module #1	Advanced Formatting and Integration of Data in Spreadsheets Using Microsoft Excel	50
Module #2	Advanced Tables, Forms, Queries, Reports and Integration of Data in databases Using Microsoft Access	50

Final grades will be based on the following weighted grades:

Module #1 (Excel)	Percent of Course Grade
Theory Test #1	10%
Theory Test #2	10%
Hands On Test #1	10%
Hands On Test #2	10%
Chapter Assessments	10%
Module #2 (Access)	
Theory Test #1	10%
Theory Test #2	10%
Hands On Test #1	10%
Hands On Test #2	10%
Chapter Assessments	10%
Total	100%

The grading scale will be as follows:

Grade	Points
A	90- 100
B	80-89
C	70-79
D	60-69
F	0-59

Entry-Level Skills: None

Prerequisites: Completion of AOT267 (with a grade of "C" or better)

Co-requisites: None