

معاونت پژوهش، برنامه‌ریزی و سنجش مهارت

دفتر پژوهش، طرح و برنامه‌ریزی درسی

# استاندارد آموزش شایستگی Microsoft Excel ۲۰۱۶

## گروه شغل

## فناوری اطلاعات

کد ملی آموزش شایستگی

۳	۵	۱	۱	۳	۰	۵	۳	۱	۰	۴	۰	۰	۲	۱
ISCO-۰۸				سطح مهارت	شناسه گروه			شناسه شغل			شناسه شایستگی		نسخه	

۲۰۱۹-۰۳-۱۰۲-۱

تاریخ تدوین استاندارد : ۲۰۱۶/۳/۵



Ministry of cooperatives  
Labour and Social Welfare



Iran Technical and Vocational  
Training Organization

Deputy of training  
Plan and curriculums office

## Competency Training standard

### Title

**Microsoft Excel2016**

### Occupational group

**INFORMATION TECHNOLOGY (IT)**

International code

2519-53-102-1

**Date of Standard Compilation: 2016/03/05**

Control of board on content compilation and accreditation: Plan and curriculums office  
National code: 2519-53-102-1

Member of Specialized commission IT Curriculum development:

- **Ali Mosavi: Director Manager of Iran TVTO Curriculum Development Office**
- **Cirrus Soltani nejad (Head of the General Department of Vocational Hormozgan)**
- **Ramak Farahabad(Deputy for Planning and Training)**
- **Golzar nazari gazic(Vice Minister of the General Administration of professional technical and Hormozgan)**
- **fatemeh taheri (Expert technical and vocational education, the Department of Hormozgan)**
- **Asma Karimi: Director of Information Technology Training Center in Bandar Abbas**
- **mohamamd reza kanjeh moradi: Director Manager of Iran TVTO Curriculum Development Office**
- **Shahram Shokofian: Manager of Iran TVTO IT Curriculum Development**

**Cooperator Specialized organizations for compiling the training standard :**

- Kharazmi Technical and Vocational Training Institute
- Kharazmi IT Academy Technical and Vocational Training Institute

**Revision Process:**

- **Scientific content**
- **According to market**
- **Equipment**
- **Tools**

Plan & Curriculum Office

97, nosrat avenue –Tehran, Iran

Tel:+98-21-66569900-9

Fax: +98-21-66944117

E-mail: Barnamehdarci@yahoo.com

	Name & family name	Academic document	field	Job & post	Relevant experiences	Add & Tel & Email
1	Esmat lashkari bandari poor	B. SC	Software engineer	Trainer	5year	Post Box NO : 7916853689, Bandarabbass , Iran
2	Morteza Moradi	B. SC	accounting	Expert	Thermal power plant	Post Box NO : 7916853689, Bandarabbass , Iran
3	Asma Karimi	B.S	Electronics Engineer	Trainer	9 Years	Post Box NO : 7916853689, Bandarabbass , Iran
4	Fatemeh vakili	B. SC	Software engineer	Trainer	10 year	Post Box NO : 7916853689, Bandarabbass , Iran
6						
7	<i>Iran Technical and Vocational Training Organization</i>					
8						
9						

## **Definitions:**

### **Job standard:**

The characteristics ' required competencies and abilities for Efficient Performance in work environment is called "the Job standard", and sometimes "The Occupational standard"

### **Training standard:**

The Training Map for achieving the Job's subset Competencies.

### **Job title:**

Is a set of Tasks and Abilities which is expected from an employed person in the defined level

### **Job description:**

A statement covering the most important elements of a job, namely the position or title of the job, the duties, job's relation with other jobs in a occupational field, the responsibilities, workplace conditions and required performance standards.

### **Course duration:**

The minimum of time which is required to achieve the training objects.

### **Admission requirements:**

The minimum of competencies and abilities which are obligatory for a potential admission.

### **Evaluation:**

The process of collecting evidence and judgment about whether a competency is achieved or not.

Include: written examination, practical examination

### **Required Qualifications for Trainers:**

The minimum of Trainer's technical and vocational abilities which the trainer is required to have.

### **Competency:**

The ability of efficient performing a duty in a variety of workplaces conditions

Knowledge:

The minimum set of facts and mental capacities which is necessary for achieving a competency. This can include science, (Mathematics, physics, chemistry or biology), technology or technical.

### **Skill:**

The minimum coordination between mind and body for achieving an ability or competency. It normally applied to practical skills.

### **Attitude:**

A set of emotional behaviors required for achieving a competency and can have non-technical skills and occupational ethics.

### **Safety:**

The cases which doing or not doing something can cause harm or accident

### **Environmental Consideration:**

A set of consideration about the act which should be done to minimize the environmental damage or pollution.

**Competency Title:**

Microsoft Excel2016

**Competency Description:**

Microsoft Excel is a spreadsheet developed by Microsoft for Windows, Mac OS X, and iOS. It features calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications. It has been a very widely applied spreadsheet for these platforms, especially since version 5 in 1993, and it has replaced Lotus 1-2-3 as the industry standard for spreadsheets

**Admission Requirements:**

minimum degree of education: Post first year of high school

minimum physical and mental ability:-

Prerequisite skills: ICDL degree 2

**Course duration:**

*Course duration:* 60 hours

-Theoretical :20 Hours

-Practical :40 Hours

-Apprenticeship:... Hours

-Project:... Hours

**Evaluation :(%)**

*Iran Technical and Vocational  
Training Organization*

**IRANTVTO Evaluation :(%)**

Written Examination:25%

Practical Examination:65%

Ethics:10%

**Required Qualifications for Trainers:**

Computer engineer with 3 years experience

## Competency Training Standard

### Competencies

	Title
1	<b>Creating a Microsoft Excel Workbook</b>
2	<b>The Ribbon</b>
3	<b>The Backstage View (The File Menu)</b>
4	<b>The Quick Access Toolbar</b>
5	<b>Entering Data in Microsoft Excel Worksheets</b>
6	<b>Formatting Microsoft Excel Worksheets</b>
7	<b>Using Formulas in Microsoft Excel</b>
8	<b>Working with Rows and Columns</b>
9	<input type="checkbox"/> <b>Advanced Formulas</b>
10	<b>Working with Lists</b>
11	<b>Working with Illustrations</b>
12	<b>Visualizing Your Data</b>
13	<b>Working with Tables</b>
14	<b>Advanced Formatting</b>
15	<b>Editing Worksheets</b>
16	<b>Finalizing Microsoft Excel Worksheets</b>
17	<b>Features New in 2016</b>

*Iran Technical and Vocational  
Training Organization*

Training standard  
Contents analysis form

<b>Title:</b> <b>Creating a Microsoft Excel Workbook</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration			Equipments ,tools, materials ,books	
<b>Knowledge and Skill:</b> <ul style="list-style-type: none"> <li>• Starting Microsoft Excel</li> <li>• Creating a Workbook</li> <li>• Saving a Workbook</li> <li>• The Status Bar</li> <li>• Adding and Deleting Worksheets</li> <li>• Copying and Moving Worksheets</li> <li>• Changing the Order of Worksheets</li> <li>• Splitting the Worksheet Window</li> <li>• Closing a Workbook</li> </ul>	Determined by the instructor			From Microsoft
<b>Attitude:</b> Speed and accuracy in doing the right thing				
<b>Health &amp; Safety:</b>  Compliance with safety protection in the workplace				
<b>Environmental Consideration:</b> Compliance with environmental protection				



Training standard  
Contents analysis form

<b>Title:</b>  <b>The Ribbon</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
<b>Knowledge and Skill:</b> <ul style="list-style-type: none"> <li>• Tabs</li> <li>• Groups</li> <li>• Commands</li> </ul>	Determined by the instructor			From microsoft
<b>Attitude:</b> Speed and accuracy in doing the right thing				
<b>Health &amp; Safety:</b>  Compliance with safety protection in the workplace				
<b>Environmental Consideration:</b> Compliance with environmental protection				

Training standard  
 Contents analysis form

Title: <b>The Backstage View (The File Menu)</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill: <ul style="list-style-type: none"> <li>• Introduction to the Backstage View</li> <li>• Opening a Workbook</li> <li>• New Workbooks and Excel Templates</li> <li>• Printing Worksheets</li> <li>• Adding Your Name to Microsoft Excel</li> <li>• Managing Workbook Versions</li> </ul>	Determined by the instructor			From microsoft
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Training standard  
Contents analysis form

<b>Title:</b>  <b>The Quick Access Toolbar</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
<b>Knowledge ,skill ,attitude ,safety, Environmental Consideration</b>				<b>Equipments ,tools, materials ,books</b>
<b>Knowledge and Skill:</b> <ul style="list-style-type: none"> <li>• Adding Common Commands</li> <li>• Adding Additional Commands with the Customize Dialog Box</li> <li>• Adding Ribbon Commands or Groups</li> <li>• Placement</li> </ul>	Determined by the instructor			From microsoft
<b>Attitude:</b> Speed and accuracy in doing the right thing				
<b>Health &amp; Safety:</b> Compliance with safety protection in the workplace				
<b>Environmental Consideration:</b> Compliance with environmental protection				

Training standard  
Contents analysis form

<b>Title:</b> <b>Entering Data in Microsoft Excel Worksheets</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill: <ul style="list-style-type: none"> <li>• Entering Text</li> <li>• Expand Data across Columns</li> <li>• Adding and Deleting Cells</li> <li>• Adding an Outline</li> <li>• Adding a Hyperlink</li> <li>• Add WordArt to a Worksheet</li> <li>• Using AutoComplete</li> <li>• Entering Numbers and Dates</li> <li>• Using the Fill Handle</li> </ul>	Determined by the instructor			From microsoft
Attitude: Speed and accuracy in doing the right thing				
Health & Safety:  Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Training standard  
Contents analysis form

Title: <b>Formatting Microsoft Excel Worksheets</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill: <ul style="list-style-type: none"> <li>• Selecting Ranges of Cells</li> <li>• Hiding Worksheets</li> <li>• Adding Color to Worksheet Tabs</li> <li>• Adding Themes to Workbooks</li> <li>• Adding a Watermark</li> <li>• The Font Group</li> <li>• The Alignment Group</li> <li>• The Number Group</li> </ul>	Determined by the instructor			From microsoft
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Equipment & Tools & Materials & Resources (books, site, software...) form

\*Required quantity for each 16 Trainees

From: Microsoft

Training standard

Contents analysis form

<b>Title:</b> <b>Using Formulas in Microsoft Excel</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill: <ul style="list-style-type: none"> <li>• Math Operators and the Order of Operations</li> <li>• Entering Formulas</li> <li>• AutoSum (and Other Common Auto-Formulas)</li> <li>• Copying Formulas and Functions             <ul style="list-style-type: none"> <li>○ Displaying Formulas</li> </ul> </li> <li>• Relative, Absolute, and Mixed Cell References</li> </ul>	Determined by the instructor			From microsoft
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

*Iran Technical and Vocational  
 Training Organization*

Training standard  
 Contents analysis form

<b>Title:</b> <b>Working with Rows and Columns</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
<b>Knowledge and Skill:</b> <ul style="list-style-type: none"> <li>• Inserting Rows and Columns</li> <li>• Deleting Rows and Columns</li> <li>• Transposing Rows and Columns</li> <li>• Setting Row Height and Column Width</li> <li>• Hiding and Unhiding Rows and Columns</li> <li>• Freezing Panes</li> </ul>	Determined by the instructor			From microsoft
<b>Attitude:</b> Speed and accuracy in doing the right thing				
<b>Health &amp; Safety:</b> Compliance with safety protection in the workplace				
<b>Environmental Consideration:</b> Compliance with environmental protection				

Training standard  
Contents analysis form

Title:	time			
	theoretical	practical	total	
	<b>Advanced Formulas</b>	Determined by the instructor		
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill: <ul style="list-style-type: none"> <li>• Using Named Ranges in Formulas               <ul style="list-style-type: none"> <li>▪ Naming a Single Cell</li> <li>▪ Naming a Range of Cells</li> <li>▪ Naming Multiple Single Cells Quickly</li> </ul> </li> <li>• Using Formulas That Span Multiple Worksheets</li> <li>• Using the IF Function               <ul style="list-style-type: none"> <li>▪ Using AND/OR Functions</li> <li>▪ Using the SUMIF, AVERAGEIF, and COUNTIF Functions</li> </ul> </li> <li>• Using the PMT Function</li> <li>• Using the LOOKUP Function</li> <li>• Using the VLOOKUP Function</li> <li>• Using the HLOOKUP Function</li> <li>• Using the CONCATENATE Function</li> <li>• Using the TRANSPOSE Function</li> <li>• Using the PROPER, UPPER, and LOWER Functions               <ul style="list-style-type: none"> <li>▪ The UPPER Function</li> <li>▪ The LOWER function</li> </ul> </li> </ul>	Determined by the instructor			From microsoft



<ul style="list-style-type: none"> <li>▪ The TRIM Function</li> <li>• Using the LEFT, RIGHT, and MID Functions <ul style="list-style-type: none"> <li>▪ The MID Function</li> </ul> </li> <li>• Using Date Functions <ul style="list-style-type: none"> <li>▪ Using the NOW and TODAY Functions</li> </ul> </li> <li>• Creating Scenarios <ul style="list-style-type: none"> <li>▪ Utilize the Watch Window</li> <li>▪ Consolidate Data</li> <li>▪ Enable Iterative Calculations</li> <li>▪ What-If Analyses</li> <li>▪ Use the Scenario Manager</li> <li>▪ Use Financial Functions</li> </ul> </li> </ul>				
<p>Attitude: Speed and accuracy in doing the right thing</p>				
<p>Health &amp; Safety: Compliance with safety protection in the workplace</p>				
<p>Environmental Consideration: Compliance with environmental protection</p>				

Training standard  
Contents analysis form

<b>Title:</b> <b>Working with Lists</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
<b>Knowledge and Skill:</b> <ul style="list-style-type: none"> <li>• Converting a List to a Table</li> <li>• Removing Duplicates from a List</li> <li>• Sorting Data in a List</li> <li>• Filtering Data in a List</li> <li>• Adding Subtotals to a List <ul style="list-style-type: none"> <li>▪ Grouping and Ungrouping Data in a List</li> </ul> </li> </ul>	Determined by the instructor			From microsoft
<b>Attitude:</b> Speed and accuracy in doing the right thing				
<b>Health &amp; Safety:</b> Compliance with safety protection in the workplace				
<b>Environmental Consideration:</b> Compliance with environmental protection				

*Iran Technical and Vocational Training Organization*

Training standard  
Contents analysis form

<b>Title:</b> <b>Working with Illustrations</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill: <ul style="list-style-type: none"> <li>• Working with Clip Art</li> <li>• Using Shapes</li> <li>• Working with SmartArt</li> </ul>	Determined by the instructor			From microsoft
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

*Iran Technical and Vocational  
Training Organization*

Training standard  
Contents analysis form

<b>Title:</b>  <b>Visualizing Your Data</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
<b>Knowledge and Skill:</b> <ul style="list-style-type: none"> <li>• Creating a Custom Chart Template</li> <li>• Inserting Charts</li> <li>• Add and Format Objects</li> <li>• Insert a Text Box</li> <li>• Create a Custom Chart Template</li> </ul>	Determined by the instructor			From microsoft
<b>Attitude:</b> Speed and accuracy in doing the right thing				
<b>Health &amp; Safety:</b> Compliance with safety protection in the workplace				
<b>Environmental Consideration:</b> Compliance with environmental protection				

Training standard  
Contents analysis form

<b>Title:</b> <b>Working with Tables</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
<b>Knowledge and Skill:</b> <ul style="list-style-type: none"> <li>• Format Data as a Table</li> <li>• Move between Tables and Ranges</li> <li>• Modify Tables <ul style="list-style-type: none"> <li>▪ Add and Remove Cells within a Table</li> </ul> </li> <li>• Define Titles <ul style="list-style-type: none"> <li>▪ Band Rows and Columns</li> <li>▪ Remove Styles from Tables</li> </ul> </li> </ul>	Determined by the instructor			From microsoft
<b>Attitude:</b> Speed and accuracy in doing the right thing				
<b>Health &amp; Safety:</b> Compliance with safety protection in the workplace				
<b>Environmental Consideration:</b> Compliance with environmental protection				

Training standard  
Contents analysis form

Title: <b>Advanced Formatting</b>	time			Equipments ,tools, materials ,books
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				
Knowledge and Skill: <ul style="list-style-type: none"> <li>• Applying Conditional Formatting</li> <li>• Working with Styles               <ul style="list-style-type: none"> <li>▪ Applying Styles to Tables</li> <li>▪ Applying Styles to Cells</li> </ul> </li> <li>• Creating and Modifying Templates               <ul style="list-style-type: none"> <li>▪ Modify a Custom Template</li> </ul> </li> </ul>	Determined by the instructor			From microsoft
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				

Training standard  
Contents analysis form

<b>Title:</b> <b>Editing Worksheets</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
<b>Knowledge ,skill ,attitude ,safety, Environmental Consideration</b>				<b>Equipments ,tools, materials ,books</b>
<b>Knowledge and Skill:</b> <ul style="list-style-type: none"> <li>• Find</li> <li>• Find and Replace</li> <li>• Using the Clipboard</li> <li>• Managing Comments <ul style="list-style-type: none"> <li>▪ Adding Comments</li> <li>▪ Working with Comments</li> </ul> </li> </ul>	Determined by the instructor			From microsoft
<b>Attitude:</b> Speed and accuracy in doing the right thing				
<b>Health &amp; Safety:</b> Compliance with safety protection in the workplace				
<b>Environmental Consideration:</b> Compliance with environmental protection				

Training standard  
Contents analysis form

Title:	time			
	theoretical	practical	total	
	<b>Finalizing Microsoft Excel Worksheets</b>	Determined by the instructor		
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
Knowledge and Skill:	Determined by the instructor			From microsoft
• Setting Margins				
• Setting Page Orientation				
• Setting the Print Area				
• Print Scaling (Fit Sheet on One Page)				
• Printing Headings on Each Page/Repeating Headers and Footers				
• Headers and Footers				
Attitude: Speed and accuracy in doing the right thing				
Health & Safety: Compliance with safety protection in the workplace				
Environmental Consideration: Compliance with environmental protection				



Training standard  
Contents analysis form

<b>Title:</b> <b>Features New in 2016</b>	time			
	theoretical	practical	total	
	Determined by the instructor			
Knowledge ,skill ,attitude ,safety, Environmental Consideration				Equipments ,tools, materials ,books
<b>Knowledge and Skill:</b>  <ul style="list-style-type: none"> <li>• New Charts <ul style="list-style-type: none"> <li>▪ Treemap</li> <li>▪ Sunburst</li> <li>▪ Histogram</li> <li>▪ Waterfall</li> <li>▪ Box and Whisker</li> <li>▪ Pareto</li> </ul> </li> </ul>	Determined by the instructor			From microsoft
<b>Attitude:</b> Speed and accuracy in doing the right thing				
<b>Health &amp; Safety:</b>  Compliance with safety protection in the workplace				
<b>Environmental Consideration:</b> Compliance with environmental protection				