Readings ReadMe for LM1-IT7723 Practicing the IT Profession Professionally

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## Information Technology (IT) and Being an IT Professional

### First, understand about what IT is, IT’s history and aspects of the IT profession:

To get started in the course, let’s explore what general articles have been written about IT, IT’s history, defining the IT profession, and what it involves and means to be an IT professional

#### Wikipedia IT Main Page

To understand IT, spending 30 minutes exploring the Wikipedia main page on IT will be beneficial:

Wikipedia Main Page- <https://en.wikipedia.org/wiki/Information_technology>

You might consider spending some time exploring some links in the sidebar on the top right of the page.

#### Recent EDUCAUSE articles on the “IT Profession”

The September/October 2018 edition of “EDUCAUSE Review” has four articles explicitly covering the IT profession and its future. We recommend reviewing the Table of Contents (TOC) for this edition and skimming/reading the articles on the IT profession. As you do, come to your own understanding of how the “IT Profession” should be defined and delimited.

<https://er.educause.edu/toc/educause-review-print-edition-volume-53-number-5-september-october-2018>

#### EDUCAUSE: Supporting the IT Profession and IT Professionals in Higher Education

In addition to serving the IT profession in education, EDUCAUSE has supported IT professionals in higher education throughout its history. One way it has done so is through a periodic survey of the IT workforce in higher education. The most recent one has been published in 2019 just before the pandemic:

<https://library.educause.edu/resources/2019/2/the-it-workforce-in-higher-education-2019>

A related report of the international picture of the IT workforce in higher education is at: <https://www.jisc.ac.uk/reports/technology-in-higher-education-shaping-the-future-it-workforce>

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The EDUCAUSE 2016 Report gives a historical perspective-

<https://library.educause.edu/resources/2016/3/the-it-workforce-in-higher-education-2016>

Of course, the global crises of a pandemic, financial meltdown, and systemic racism have had a major impact on IT, the IT profession, and IT professionals. A recent EDUCAUSE quickpoll provides details: <https://er.educause.edu/blogs/2020/4/educause-covid-19-quickpoll-results-the-technology-workforce>.

As you read these articles, come to your own understanding and definition of what it means to be an “IT Professional.” We will continue our review with a focus on materials from EDUCAUSE, because EDUCAUSE sees supporting IT professionals in their careers as being important to overall success of IT in education. Here is a sample of their resources. To understand being an IT professional in education, spending 30 minutes exploring them will be beneficial. As you do so, reflect upon the impact the pandemic and other recent crises and disruptions have had on the IT profession and professionals:

<https://er.educause.edu/articles/2002/1/creative-strategies-for-meeting-the-needs-of-the-lifelong-it-professional>

<https://er.educause.edu/articles/2006/1/twelve-habits-of-successful-it-professionals>

<https://er.educause.edu/multimedia/2015/2/developing-the-higher-ed-it-professional> (an interview on Soundcloud)

<https://er.educause.edu/blogs/2019/3/the-importance-of-respecting-expertise-in-it-professionals>

<https://er.educause.edu/articles/2017/3/ethics-and-the-it-professional>

<https://er.educause.edu/articles/2012/1/aspiring-and-residing-it-leaders-a-legacy-for-the-future>

#### IT Professionals Have a Diverse Range of Expertise or Subject-Matter Experts (SMEs)

IT has grown to the point that no one person can know everything about IT. In recognition of this huge breadth and depth of IT, one desired characteristic of IT professionals is to limit their practice of IT to those SME areas where they are competent and capable. Thus, we speak about security experts, database experts, web experts, etc. to limit our practice within IT. Wikipedia has a generic definition of an SME (<https://en.wikipedia.org/wiki/Subject-matter_expert>) as “an authority in a particular area or domain.” It is helpful to read this Wikipedia article and then also write a definition of a SME for IT. Complete the loop by applying this definition to your practice to document a description (with justification) of the areas in IT (security, web, database, analytics, etc.) where you judge you have sufficient authority to claim SME status.

### Second, understand why organizations invest in IT and hire IT professionals- Produce value

IT is a required resource in virtually all organizations today. CompTIA.org is a leading voice for the IT industry and publishes an annual report on technology (<https://www.cyberstates.org/>) indicating that the technology sector is responsible for over 10% of the U.S. economy. (The Comptia and Cyberstates links take you to material that is copyrighted by CompTIA- <https://www.comptia.org/terms-conditions>.) The statistics presented in the Cyberstates report clearly show that IT provides value to organizations and enables them to produce valuable goods and services as well as describing the necessity for a skilled, capable, and educated workforce of IT professionals to ensure IT delivers value securely and efficiently. It is worthwhile to spend 30 minutes or so exploring CompTIA.org and the Cyberstates.org report to get a grounding on why and how organizations invest in IT and IT professionals.

### Then, understand about how you (will) work professionally within the IT profession:

Once you understand the foundations of IT, the IT profession and how IT is woven into virtually all business and human activity today, a good next step is to situate yourself within the IT profession and think about how you will work as an IT professional.

#### IT Professionals Work Best When They Adopt a “Code of Professional Practices and Ethics”

As a part of defining your own professional practice of IT, it is helpful to have reviewed relevant ethical codes and professional practice approaches and adopt one or select from these and compile to develop your own to guide your professional practice within IT. Some Suggestions:

ACM Code of ethics- <http://www.acm.org/about/code-of-ethics>

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CompTIA Code of ethics for certificate candidates and holders- <https://certification.comptia.org/testing/test-policies/continuing-education-policies/candidate-code-of-ethics> (This link takes you to material copyrighted by CompTIA- <https://www.comptia.org/terms-conditions>.)

EDUCAUSE article on professional ethics within IT- <https://er.educause.edu/articles/2017/3/ethics-and-the-it-professional>

IEEE Code of ethics- <http://www.ieee.org/about/corporate/governance/p7-8.html>

(IEEE Terms and Conditions- <https://www.ieee.org/site-terms-conditions.html>)

We recommend spending a few hours during the course reviewing and adopting a code of ethics and professional practices to guide your practice within IT. We recommend doing so now, before you need to apply the code and make decisions about whether it is ethical or appropriate to proceed.

#### The IT Profession is a Collection of Communities of Practice

Wikipedia (<https://en.wikipedia.org/wiki/Community_of_practice>) defines a Community of Practice (CoP) as “a group of people who share a craft or a profession.” Thus, IT in the large defines a large CoP of IT professionals, which is also an aggregation of multiple smaller CoPs for IT SMEs (security, web, database, etc.), industry segment (financial, higher education, healthcare, etc.), and other similar factors. Often, CoPs will have a professional society devoted to collecting and promoting their CoP members, e.g., ACM.org, CompTIA.org, EDUCAUSE.edu, IEEE.org, ISACA.org, SANS.org, etc. Consider joining a selection of these to aid you in keeping current in IT and your SME area(s)- you will need to balance the costs and benefits of each organization. Many of them have student memberships at a reduced cost. It is worth an hour or two of your time over the course to investigate joining a professional society associated with your IT practice.

#### IT Best Practices and Frameworks:

Wikipedia (<https://en.wikipedia.org/wiki/Best_practice>) defines a best practice as “a method or technique that has been generally accepted as superior to any alternatives because it produces results that are superior to those achieved by other means or because it has become a standard way of doing things.” When you practice IT in an organization, the organization will adopt selected IT methods as their best practices. These will then become required standard operating procedure.

Often, the best practices will come in an integrated system called a “framework.” Wiktionary.org (<https://en.wiktionary.org/wiki/framework>) defines framework as “the identification and categorization of processes or steps that constitute a complex task or mindset.” Wikipedia (<https://en.wikipedia.org/wiki/Framework>) lists a number of relevant frameworks in computing and IT including one the National Institute of Standards and Technology (NIST- <https://www.nist.gov/>) has played a major role in developing and implementing what is called the Enterprise Architecture Framework, which can be reviewed at:

* <https://en.wikipedia.org/wiki/NIST_Enterprise_Architecture_Model>
* <https://en.wikipedia.org/wiki/Enterprise_architecture_framework>

IT Frameworks provide the advantage of keeping the many moving parts of IT coordinated and aligned, while providing a coherent, rational and justified way of understanding and explaining IT within the organization and outside of the organization. An IT framework’s scope can be across the organization, such as

* Enterprise Architecture (links above)
* COBIT from ISACA.org (<https://en.wikipedia.org/wiki/COBIT>)
* ITIL (<https://en.wikipedia.org/wiki/ITIL>)

An IT framework’s scope can also be within the scope of a subject-matter domain, e.g., cyber security (<https://www.nist.gov/cyberframework>) or web development and deployment (<https://en.wikipedia.org/wiki/Web_framework>). It is worth an hour or two of your time now exploring IT frameworks and best practices.

#### IT Professional Tool Kits:

Wiktionary.org (<https://en.wiktionary.org/wiki/toolkit>) defines a tool kit as “an assembly of tools.” An IT professional can greatly benefit from keeping tools to use in their professional practice in an organized, accessible tool kit. Utilizing the IT tools you have learned in the your study of IT (database, the web, security, etc.), developing a professional tool kit, personalized to your practice of IT, should be straight forward, while allowing you to practice your IT skills.

Besides specific examples your instructor provides, doing contemporaneous web searches will reveal to you many other examples and potential resources to add to your own IT professional tool kit. As you do so, keep in mind that you will come across web sites asking you to pay and/or enroll as a member in a service. We do NOT expect you to pay for any information or service. We do NOT expect you to enroll for any service. If you choose to do so, that is your prerogative. No payment nor enrollment is required. We suggest backing out of or closing out of any web pages requiring you to pay and/or register your enrollment.

As of this file’s creation date, we used Google.com to do searches for the following:

IT analytics professional tool kit

IT database professional tool kit

IT programmer professional tool kit

IT security professional tool kit

IT user experience professional tool kit

IT web developer professional tool kit

As you can see, we added a SME domain to modify a standard search string: “IT <SME domain> professional tool kit” and each of these searches resulted in some interesting hit lists. We suggest you spend 15 to 30 minutes exploring the resources available for IT professional tool kits.

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### U.S. Government Materials and Websites, e.g., www.NIST.gov

<https://www.usa.gov/government-works>

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#### OPTIONAL ACM Ubiquity Interview in 2000 with Peter Denning on the “IT Profession”

Peter Denning has been a long-standing “guru” of IT. In 2000, John Gehl interviewed Peter for the ACM publication, “Ubiquity.” This article is a relatively timeless definition of the IT profession and the issues faced within the IT profession and other computing professions as well. <https://ubiquity.acm.org/article.cfm?id=334460> (Note the ACM restricts access to much of its content to subscribers of the ACM Digital Library. This link seems to be open and it worked today and hopefully it will work for you. If it does not work for you, skip this OPTIONAL interview.)