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Day, Time: Wednesdays 4:55 – 6:35pm; May 25 – June 29
Location: 194 Mercer  Room:304
Credits: 2 credits
Prerequisites: A good knowledge of Excel (Excel course module 1032 or completion of the Excel exam) is required.

COURSE DESCRIPTION
This course describes the growing role of technology in nonprofits and how high-impact organizations are using technology to drive performance within their programs. Included is a lecture on the IT-related problems faced by nonprofits and solutions available to address these problems. Methods for implementing solutions and best practices for data collection and analysis will also be outlined. A portion of the course will be hands-on: we will identify techniques for quickly analyzing datasets using MS Excel and create a functional specification document to customize an application. We will also examine different types of consultants and vendors for IT projects.

LEARNING OBJECTIVES
At the end of this course, you will be able to:

- Articulate the IT-related problems facing nonprofits and how they impact outcomes
- Intelligently develop criteria for selecting an IT product
- Understand the concepts and considerations when implementing an IT solution
- Understand both the front-end and back-end of a database (tables vs. dashboards)
- Use tools in Excel to analyze datasets quickly
- Effectively communicate IT requirements to IT staff and consultants
- Understand how to select, and manage IT consultants and vendors

COURSE STRUCTURE
Sessions 1-4, 7 will require readings and participation in a lecture setting.
Sessions 5 & 6 will include at-home exercises and will take place in a computer lab.

ASSIGNMENTS AND GRADING

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percent of Grade</th>
<th>Date Distributed</th>
<th>Date Due</th>
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<tbody>
<tr>
<td>Short-Answer Test</td>
<td>65%</td>
<td>6/15</td>
<td>6/22</td>
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<tr>
<td>Reporting Case (Excel)</td>
<td>35%</td>
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In-Session Reporting Case in Excel
The reporting case will be administered in the computer lab. You will be given a primary dataset from a typical database export and asked a question that will involve multiple steps to achieving the answer. You will be graded on whether you arrive at the correct answer, your justification on how you arrived at the answer, and the speed in which you arrived at the answer.

**Short Answer Test**
You will be given a series of short-answer questions based on the core concepts discussed and class and the readings. You will be required to answer all questions within the time provided. The questions will each be answered in a short paragraph that will be graded based on the following criteria:

1. Was the correct concept from class/assigned readings identified?
2. Was a proper justification/explanation given to support the concept?
3. Was a creative and accurate example outlined to explain the topic?
4. Does the answer accurately draw from the readings and class lecture?

**Extra Credit**
This year, a full letter grade will be given for fully completing an extra credit assignment by the end of the final session (7/1). You can submit the extra credit at any time during the course, but late submissions (after the end of the final session) will not be accepted.

You will have two options:

1. Complete the Force.com workbook through page 110 (print version), leaving out the coding on page 89-94 [Reporting REST API]. In this extra credit, you will be guided through a series of step-by-step tutorials to create an online and mobile application to manage inventory (something every nonprofit does). To receive full credit, when you’re complete, make me a user under username: Yurgosky@{your full name}nyu2015.com

   IMPORTANT: Follow the book exactly. Do not create a Salesforce trial to complete the book, you will receive many sales calls and not have the resources available to complete the extra credit. You must create a developer license at https://developer.salesforce.com/ as described on page 3 in the workbook.

2. Complete the CartoDB Map Academy basic courses (3; 1-hour each)
   a. Online Mapping for Beginners
   b. Introduction to Map Design
   c. SQL and PostGIS in CartoDB
   d. Complete a torque map using the concepts learned in the courses using a publically available dataset from NYC Open Data (https://nycopendata.socrata.com/). Please be creative with your dataset – though not a requirement, visualizing public data in an interesting way is always appreciated.

   To receive full credit, you will need to send me the publically available URL to your final torque map. Make sure it is publicly available. If I cannot access it, I cannot give you credit.
READINGS

Required:
3. Packet of course readings.

Optional:

COURSE OUTLINE AND READING ASSIGNMENTS

Session 1
5/25
Problems Faced by Nonprofits
Nonprofits face a suite of IT dilemmas including an inability to track and report leading indicators and outcomes, fractured data due to information silos, and inefficiency due to data entry. In this session we will explore each of these issue areas to better understand how these issues impact the work of nonprofits from a financial, staffing and outcomes perspective. We will then dive into what IT does very well and the frameworks used when assessing how to overcome these obstacles, such as defining the operating model.

Readings:
2. Raising the Bar: Serving Hunger and Poverty in Cincinnati: http://www.showyourimpact.org/raising-bar

Optional:
Solutions to Problems

In this session you will learn different ways that data is organized and how relational databases work. We will explore some of the many products available and how each addresses the particular issues faced by nonprofits. We will look at specific applications and platforms, such as Social Solutions’ Efforts to Outcomes (ETO), CiviCRM and Salesforce.com, AirTable, Excel, Google Docs. We will identify the positives and negatives to each product and identify how they can solve each of the various problems described in session.

Readings:
1. What is a Database Anyway?
   http://www.awdsf.com/courseware/database/database_explained.htm
2. Back Away from the Spreadsheet: Why Excel Isn’t a Donor Database:
3. AirTable: https://youtu.be/BP3otFMLwm0
4. A Few Good Case Management Tools:
   http://www.idealware.org/articles/few-good-case-management-tools-0
   http://idealware.org/articles/software-support-program-evaluation
7. Let’s Talk: How Open APIs Can Change How Nonprofits Manage Data.
8. The Economics of Software as a Service (SAAS) vs. Software as a Product: http://www.pragmaticmarketing.com/publications/magazine/6/5/the-economics-of-software-as-a-service-saas-vs-software-as-a-product
9. Case Studies:
   a. CEO: http://www.salesforce.com/showcase/stories/ceo.jsp
   b. Year Up: http://www.salesforce.com/customers/education-non-profit/yearup.jsp
   c. Latin American Youth Center (ETO).
   d. Catholic Charities of Central Maryland (ETO).
10. Products & Demos:
    b. ETO Demo - http://www.youtube.com/watch?v=2vN0Iti-kfg
    d. Salesforce Demo - http://www.youtube.com/watch?v=x0O7W-AsYk
    e. CiviCRM Overview - http://civicrm.org/aboutcivicrm
    f. CiviCRM - http://www.youtube.com/watch?v=Nj6198aKKYc
11. Review Tools:
   a. If This Than That (IFTTT) - https://ifttt.com
   b. CartoDB - https://cartodb.com/
   c. Zapier - https://zapier.com/
Session 3 6/8

Implementing a Solution
Now that you know about the different products, we'll explore the considerations during implementation. We will focus on security, infrastructure, operating model (i.e. the level of standardization and/or integration appropriate for your nonprofit), licensing and change management considerations. We will also explore various methods of implementation as well as financial, staffing, and training considerations.

Readings:

Optional:

Session 4 6/15

Collecting & Analyzing Data
At the heart of every solution is a database that houses data for analysis. In this session we will explore how effective nonprofits are designing processes and leveraging the strengths of IT to collect better data and increase outcomes. You will learn different ways that data is organized and how relational databases work. We will also explore how to create dashboards and reports to monitor and manage processes.
Readings:
3. Let Your Data Do The Talking: [https://www.youtube.com/watch?v=NbK8msTRnt8&t=23m20s](https://www.youtube.com/watch?v=NbK8msTRnt8&t=23m20s)

Optional:

Session 5  6/22

**Excel for Data Analysis**
Microsoft Excel is a common denominator in any analysis. In this session you will learn the key formulas and functions to quickly analyze large datasets for reporting and analysis. This session will be hands-on and take place in a computer lab. We will go over a series of common requests that nonprofits receive and you will learn the tools to quickly provide answers from multiple angles. Examples of the tools are: array formulas, pivot tables, text to columns, index, match, sumproduct, etc.

Readings:
1. Brush up on your Excel skills using Excel Help or the Excel Bible.
2. Practice MS Excel problems will be provided.

**Short Answer Test Due Before Class**

Session 6  6/29

**Managing the Project & Vendors**
Most IT products will require some customization, adding new contract requirements or new programs also usually require nonprofits to modify their existing applications. Functional specification documents save nonprofits time and money by making sure that everyone is on the same page with how a program should function. Functional specs are different than technical specification documents, because they solely focus on how an application will work, not on how the code will be written, etc. Nonprofits create these specifications to ensure that the IT consultants or staff are precisely aware of the way an application should function, thus saving time and money compared to not
creating specifications. In this session you will learn the best practices in creating these documents as well as when and how to build them.

In this final session, you will also learn how IT consultants and vendors impact the work of nonprofits. You will learn the different types of consultants, how to chose the best consultant, the requirements for a Request for Proposals (RFP) Requests for Information (RFI), how to recruit/identify venders and consultants, and managing the selection process.

**In-Session Excel Quiz: First 15 minutes of session.**

1. **Complete Excel Practice Problems** (distributed in session 5)

**Functional Specification Practice Readings:**

**Readings:**