

Problem:

It can be a challenge for IT students in Software Development and Data Science & Analytics to identify entry level jobs in the marketplace and make sure they have the required IT skills upon graduation. Often students discover that they should have taken certain courses for the job they are interested in.

Hypothesis:

It is my intuition that if students have access to career data regarding required skills for entry level positions they could be more focused in their approach to choosing the right courses to match the IT skills they would need upon graduating.



Materials:

- 10 Job Listing Datasets
 - <https://www.kaggle.com/andrewmvd/business-analyst-jobs>
 - <https://www.kaggle.com/andrewmvd/data-analyst-jobs>
- My 11 IT Courses
- MS Excel
- Data Analysis using Jupyter Notebook
- Python Coding

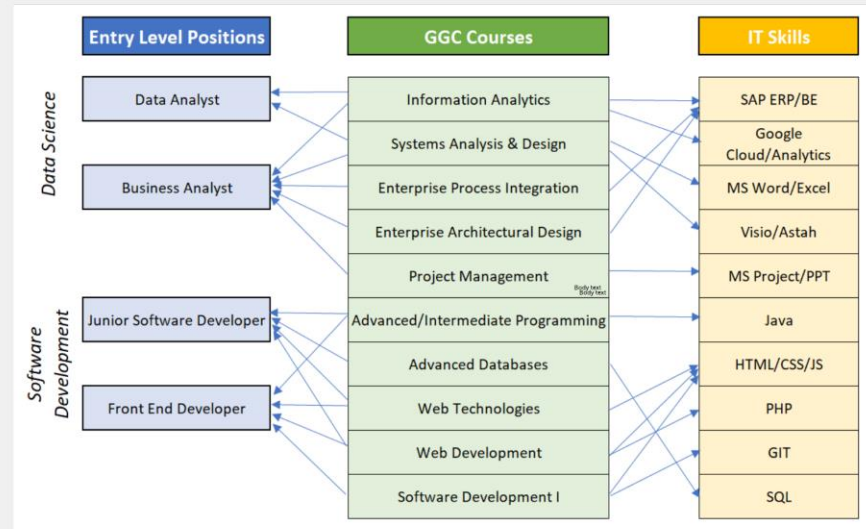
Matching IT Job Skills & GGC Courses

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Procedure:

This schema shows four of the most common job titles mapped to IT skills learned in my ITEC classes.

Method: First, we filter our 10 datasets to only entry level positions in Software Development and Data Science. Then, we grouped the data into the most common job titles. I have intuitively selected the skills learned from each of my ITEC courses. I mapped those skills to the job titles based on the job descriptions.



Results:

Data Analyst	Business Analyst	Junior Software Developer	Front End Developer
SAP ERP/BE	SAP ERP/BE	Java	Java
Google Cloud/Analytics	Google Cloud/Analytics	HTML/CSS/JS	HTML/CSS/JS
MS Word/Excel	MS Word/Excel	GIT	PHP
Visio/Astah	Visio/Astah	SQL	GIT
ITEC 4210	MS Project/PPT	ITEC 3860	SQL
ITEC 3700...	ITEC 4150	ITEC 3150...	ITEC 3150
	ITEC 4750...		ITEC 4450...

Example Job Listing:

DATA ANALYST

Strong knowledge of and experience with data visualization/reporting packages (Tableau, Power BI, Spotfire, etc.), databases (MS-SQL Server, Impala, etc.), and programming (XML, JavaScript, or ETL frameworks). Strong analytical skills with the ability to collect, organize, analyze, and disseminate significant amounts of information with attention to detail and accuracy. Knowledge of statistics and experience using statistical packages for analyzing datasets (Excel, Minitab, etc. BS in Computer Science, Statistics/Biostatistics, or Mathematics or equivalent practical experience

Based on a manual comparison of my IT skills at GGC for the skills for the Data Analyst position above it is evident that it would be perhaps to my advantage to take a GGC course offering Tableau and MiniTab.

Conclusion:

- Based on my experience, I was able to map my ITEC courses to a few entry level job titles.
- This study proves the concept.
- However, there is need for an automated solution which is easily accessible via a website for all GGC students.
- Also, this study needs to include the knowledge coming from faculty and other students to make it more accurate and usable.
- At this time, I am in the process to start building up an automated solution.

Presentation Links:

[Video: Hard Skills vs Soft Skills](#)

[Presentation Survey](#)

Statistical Sample:

Skills for "Entry Level Software Developers"
719 Job Listings : Jan-Jul 2019

