

Project 2 - EDTC - 808

Comparing and Contrasting Jobs in Higher Education, K - 12, and Corporates

Math Adjunct Jobs - Higher Education

Analyzing nine different jobs with the math major in three different fields (higher education, K - 12, and Corporates) that are posted in the job hunting website - Indeed. Referring to the figures below the job description describes each job briefly. Mathematics does not see limits on any occupation. After all, math is involved in just about every job in some way (Trade Schools, 2022). Nonetheless, I will focus my work on the three different fields (higher education, K - 12, and corporates). The selected jobs in higher education center on the math adjunct in two universities and a community college. The K - 12 jobs centers on math high school jobs at two middle schools and one highschool. While the selected jobs on the corporates center on the financial analysis with the math major. The three different jobs have in common the same major - mathematics. Since I am a math major, I have decided to analyze nine jobs that apply the same tool - mathematics.

The image displays three job listings for mathematics adjunct positions in higher education, sourced from Indeed. Each listing is presented in a card format with a blue border. The first listing is for 'Adjunct Professor: Mathematics' at Felician University in Lodi, NJ, a part-time position with 38 reviews. The second is for 'Adjunct Instructor for Math-2022' at Fairleigh Dickinson University in Teaneck, NJ, a part-time position with 188 reviews. The third is for 'Adjunct Math Instructor' at Sussex County Community College in Newton, NJ, a part-time contract position with 42 reviews. Each card includes an 'Apply now' button, a heart icon for saving, and sections for job details, full job description, and hiring insights.

Job Title	Employer	Location	Job Type	Reviews
Adjunct Professor: Mathematics	Felician University	Lodi, NJ 07644	Part-time	38
Adjunct Instructor for Math-2022	Fairleigh Dickinson University	Teaneck, NJ 07666	Part-time	188
Adjunct Math Instructor	Sussex County Community College	Newton, NJ 07860	Part-time, Contract	42

Job details for Adjunct Professor: Mathematics:
Job Type: Part-time
Full Job Description: Felician University is offering exciting opportunities for Adjunct Professors of Mathematics for the 2022-2023 academic year. Under the mentorship of full-time faculty, adjunct instructors will provide classroom experiences and ground practices for higher education and their respective disciplines.
Position Type: Part-time, 1-2 courses per semester during the 2022-2023 academic year, maximum 3 days per week. Day and evening classes available.
Department: School of Arts and Sciences, Mathematics Department
Required Education: Master's degree in Mathematics or related field

Job details for Adjunct Instructor for Math-2022:
Job Type: Part-time
Full Job Description: Gildart Haase School of Computer Sciences and Engineering (GHSCSE) invites applicants to teach Math courses as adjuncts at various levels, including Algebra Skills, College Algebra, Precalculus, and others.
Required Qualifications: A Master's degree in Mathematics or a closely-related field is required.
Employment is contingent upon a satisfactory background check. Candidates for hire will be required to sign a waiver authorizing the background check and produce a Social Security Card.
Preferred Qualifications: Hours Worked Posting Date: 11/10/2021 Special Instructions to Applicants: Application Types Accepted: Faculty Profile
Hiring Insights: Posted 30+ days ago

Job details for Adjunct Math Instructor:
Job Type: Part-time, Contract
Qualifications: Bachelor's (Preferred)
Full Job Description: Sussex County Community College is looking for Adjunct Instructors to teach day and evening sections of math courses including developmental math, college level liberal arts math, and statistics classes. Successful candidates will have completed a Masters degree in Mathematics or a related field or at least 18 graduate Math credits. A Bachelors degree in Mathematics is required. Previous college-level teaching experience is preferred.
Please submit cover letter and resume. Sussex County Community College is an Equal Opportunity Employer.

Figure 1. Three jobs in higher education - adjunct professors/adjunct instructors for mathematics taken from the job hunting website, Indeed.

Adjunct math jobs in the three job posts is a part time job containing advantages and disadvantages for the candidate that requires some criterias. In general, professionally adjuncts need at least a master's degree and possibly a doctorate in the subject (Hering, n. D.). In Felician and Dickinson University a criteria to work there is to obtain a master degree, while in Sussex Community College prefers bachelor degree. The advantages of the three part time jobs in the Figure 1 are as follows:

- Opportunity to work in several universities/colleges.
- Flexibility to work in other jobs.
- Few meetings to attend.
- Does Not need to publish research papers.
- Choosing a convenient schedule to work.
- Reduced stress - they have less obligation than full time professors.

The disadvantages of the three part time jobs in the Figure 1 are as follows:

- The job does not have benefits such as health insurance, dental insurance, vision insurance, retirement plan, etc.
- The contract is provided only when they start teaching the course, and it ends when the course is done by the end of the semester.
- The job is temporary.
- Job instability.
- Low salary between \$1,500 to \$2,500 per semester.

In my teaching experience as a math adjunct at Hudson County Community College, Passaic County Community College, and Eastern International College, I encountered all bad and good sides of the adjunct occupation. The greatest benefit I have gotten from the teaching job is my teaching experience. I have gained a good portion of the experience that assisted me to get teaching full time jobs as a teacher with full benefits.

Math Teacher Jobs - (Pre K - 12)

Teaching jobs at pre K to 12 grade is regarded as the most relevant factor on the students' learning results; therefore, the benefits for the job are great despite the fact there are some disadvantages. In figure 2 are illustrated job posts of three math teaching jobs (two middle school jobs and one high school job). Observing the qualifications that are required in each school differs from another, however, the teaching requirement is the same for all schools. All three schools expect the teacher to possess high teaching skills. Symmetry in learning is a necessary condition for all learners in school, no matter their age or experience (Hobbs - Beckley, 2022). The great teaching art compels teachers to offer the same opportunity to all students to learn. A way to apply learning symmetry, the good math teacher needs to differentiate teaching for advanced, average, and struggling students. Superficially all three job posts set different conditions, but the teachers who will get the job will experience the same good and bad sides of the teaching.

The image displays three job listings for math teachers, each in a separate window. The first window is for a 'Middle School Teachers needed: Mathematics Teacher / Technology Teacher' at Salem City School District, Salem, NJ, with a salary range of \$54,368 - \$91,421 a year. The second window is for a 'Middle School Math Teacher' at Paterson Public Schools, Paterson, NJ, with a salary range of \$57,455 - \$82,555 a year. The third window is for a 'High School Math Teacher (2022-23)' at GO Foundation, Newark, NJ, with a salary range of \$54.4K - \$68.8K a year. Each listing includes details on salary, job type, qualifications, and benefits.

Job Title	Employer	Location	Salary Range	Job Type	Qualifications	Benefits
Middle School Teachers needed: Mathematics Teacher / Technology Teacher	Salem City School District	Salem, NJ 08079	\$54,368 - \$91,421 a year	Full-time	Classroom management: 1 year (Required) Organizational skills: 1 year (Required) Teaching: 1 year (Required) Teaching Certification (Required) US work authorization (Preferred)	Dental insurance, Health insurance, Paid time off, Vision insurance
Middle School Math Teacher	Paterson Public Schools	Paterson, NJ 07503	\$57,455 - \$82,555 a year	Full-time	US work authorization (Required)	Dental insurance, Health insurance, Life insurance, Paid time off, Parental leave, Professional development assistance
High School Math Teacher (2022-23)	GO Foundation	Newark, NJ	\$54.4K - \$68.8K a year	Full-time	Not provided by employer	Dental insurance, Flexible spending account, Gym membership, Health insurance, Tuition reimbursement, Vision insurance

Figure 2. Jobs for math teachers from preK - 12 in three different schools in the tree different cities: two middle schools and one high school.

Mathematics teaching jobs in the middle or high school in the posts offer a great opportunity with great benefits, and great responsibilities. In general a teaching job demands hard work. Three posts differ one from another with the requirements. For instance the first post requires more qualifications including experience, while the others require less qualifications. Today, any school administration strives for a greater success for the school as a result they put lots of pressure on the students and teachers. The greatest responsibility falls on the teachers' burdens. When Carey was young described the teaching job in this way. The way the situation was handled and the uncertainty created, further pushed me away from becoming a teacher (Carey, 2015). There are many graduates who share the similar experience with Carey. Also, my experience in the beginning was similar one. Let analyze bellow some math teaching advantages and disadvantages:

- Job stability because there is a shortage of teachers in Pre K - 12 grades in the United States
- Good Salary - observing the job posts from the three posts we could make a range of the salary from \$50K to \$90K depending on the experience and education.
- Salary and benefits improve every year.
- Many days off for holidays and winter/summer break.
- Impacting new generations, et.
- Stable benefits such as health insurance, dental insurance, vision insurance, and retirement plan.

The disadvantages of the three teaching math time jobs in the Figure 2 are as follows:

- Dealing with parents when students do not do well.
- Working extra hours at home to prepare for the lesson plan, or create exams.
- Continuing education, or participating in PD.
- Standardized testing/exams.
- Differentiating teaching.
- Helping students after school.

Math jobs posts - Corporates (companies)

Candidates with mathematics major skills in theoretical - practical domain and problem solving skills are demanded in any company (private or public) related to data science, finances, or computer sciences. The job posting with mathematics majors in two jobs indicates majors in the finance field and the other one analytical consultant. Math majors require more work than most of the other fields and math majors provide mathematicians with a better salary than other fields. And according to the National Association of Colleges and Employers 2005 salary survey, math majors make an average of almost 40 percent more than English, history, sociology, and psychology majors (mathematician, 2019). Mathematics enables students in the technical sciences to understand any scientific subject in a technical field much deeper. Therefore, many companies seek to hire candidates with the math major as we see in the three posts in Figure 3.

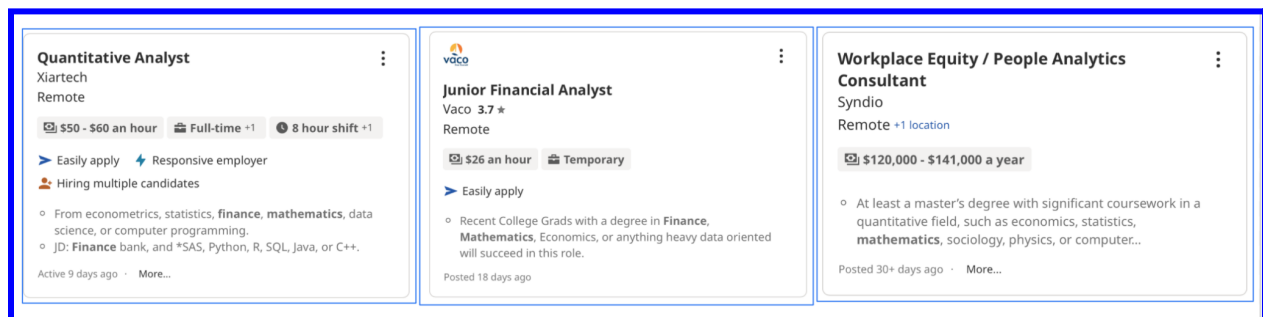


Figure 3. Jobs in business companies within a financial field with math majors and related field

Sometimes students wonder why I am going to work with a math major, but many companies are interested in higher math majors candidates. What do employees think about math majors? We are really impressed with how they are able to articulate technical and complex ideas in clear and comprehensible terms, whether in written reports or aloud in conversation (Matt, 2018). Many companies highly value math majors candidates; there are several companies (based on the article, The 5 Best Jobs for the Math Majors) who hire math majors besides the three companies with job postings in Figure 3.

- Mathematicians and Statisticians
- Actuary
- Market Research Analyst

- Financial Analyst
- Data Scientist

Analyzing the three job posts with the math majors, I can conclude that the best jobs with a bachelor or master degree (from the perspective of application) in mathematics are teaching jobs at PreK - 12. The candidate with a math major can apply his/her occupation merely to mathematical tools without being interrelated in other fields. The general benefits are good and the job is stable. The job is stressful working as a teacher, but the level of the stress is higher when you need to participate in two or more different fields (such as financial analyst - requires business, statistics, and general mathematics). Also, math adjuncts are convenient jobs for math majors, but the stability and benefits of the job are inconvenient for supporting a normal life. Referring to the job postings and other facts that are mentioned above, the best job for a mathematician with a bachelor or master degree is a math teaching job from PreK - 12.

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