



# STEM Careers

## Cryptographer

**Job Description:** Help keep data safe by writing ciphers, algorithms, and other security protocols to encrypt the information.

### What does a Cryptographer do?

- Use mathematics develop new methods for encrypting data
- Work on finding techniques to solve ciphers
- Create reports based on data you have
- Test existing models for reliability or accuracy
- Apply mathematical theories when solving problems
- Look for new relationships between existing mathematical principles
- Help companies protect records, like personal health information or bank records, using encryption
- Check for weaknesses in security systems and algorithms
- Work on a team to encrypt and decrypt data
- Provide detailed explanations of your processes to colleagues
- Talk with clients about concepts

### Your Interests:

- Do you like problem solving and puzzles?
- Are you good at math?
- Can you clearly communicate your ideas to others?

### Outlook: **Bright**

Average Salary - \$53.30 hourly, \$110,860 annual

Projected Job Openings - 15,000 over the next 10 years.

### Education/Program of Study:

- Most positions require a graduate degree such as a master's or Ph.D.
  - Possible degree paths are computer science, computer engineering, cybersecurity, mathematics, and other related fields

Sources:

<https://www.onetonline.org/link/summary/15-2021.00>  
<https://www.cyberdegrees.org/jobs/cryptographer/>

<https://www.cyberdegrees.org/jobs/cryptographer/>  
<https://cybersecurityguide.org/careers/cryptographer/>