

Course Project

Your project is to research one of the following special functions, write a paper about it, and prepare a lesson about it that you will present in class. Your lesson should include homework (and solutions).¹

- Bessel functions
- elliptic functions/integrals
- Gamma function
- Hermite polynomials/functions
- hypergeometric functions
- Laguerre polynomials/functions
- Legendre polynomials/functions
- Riemann zeta function
- Weierstrass \wp function
- other (please ask)

Some questions you might want to consider are:

- How is the function defined?
- When was it first defined?
- Who first defined it?
- What question or event motivated the inventor to think about this function?
- What other uses does this function have?
- What are some examples that illustrate the importance or application of this function?

These questions are to get you started. You should be creative and not simply do a literature search.

After you write your paper and the instructors read and return it, you will teach the rest of the class about your special function using group exercise techniques. You are also responsible for preparing a homework set for the other students to work to solidify their knowledge of your special function.

¹The materials you write should be prepared in \LaTeX .