

**“Equivalent Codes From Finite Fields”
Stephanie Klumpe**

Abstract:

Equivalency of codes, in regards to, encryption becomes a different question when we remove ourselves from the typical alphabet. Historically, people would take messages and use maps on the alphabet to translate the messages into equivalent statements that look different on the surface. In the context of fields, this is where MacWilliams did her work and showed that, under certain circumstances, we can still show certain codes are equivalent even if they look different. We will explore her work and show with examples how this can be done, and then look to what lies beyond MacWilliams' initial work.