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Olivia Brozek and **Matthew Glomski*** (matthew.glomski@marist.edu), Marist College,
Department of Mathematics, 3399 North Road, Poughkeepsie, NY 12601. *A compartmental
epidemiological model with infectious-deceased class*. Preliminary report.

We consider *Marburg Hemorrhagic Fever* (MHF), a rare and deadly disease caused by a virus from the same family as *Ebola*. Evidence from outbreaks suggests a vigorous infection pathway from the recently deceased to the living, and for this reason the traditional *susceptible-exposed-infectious-removed* (SEIR) model may not suffice to capture the dynamics at work in MHF epidemics. We extend the SEIR model to include an *infectious-deceased* compartment. This analysis is compared to previous SEIR models for the 2004-2005 MHF outbreak in Uige, Angola. We then adjust the model to include births and non-disease deaths as demographic features in the model. Stability of the disease-free and endemic state equilibria are investigated. Finally, we discuss how this model may apply to the current West African Ebola epidemic. (Received September 04, 2014)