1067-X1-2095   **Terrell L. Hodge*** (`terrell.hodge@wmich.edu`), Department of Mathematics, Western Michigan University, Kalamazoo, MI 49008, and **Raina Robeva** (`robeva@sbc.edu`), Department of Mathematical Sciences, Sweet Briar College, Sweet Briar, VA 24595. *Mathematical Biology Modules Based on Modern Molecular Biology and Modern Discrete Mathematics.*

We describe an ongoing collaborative curriculum materials development project between Sweet Briar College and Western Michigan University with support from the National Science Foundation. We present a collection of modules under development that can be used in existing mathematics and biology courses and addresses a critical national need to introduce students to mathematical methods beyond the interface of biology with calculus. Influenced by recent research advances, the modules highlight applications of modern discrete mathematics and algebraic statistics to pressing problems in molecular biology. For some of the projects, calculus is not a required prerequisite, and the modest amount of mathematical background needed for the introductory parts of those modules makes them well-suited for an early introduction to mathematical modeling. At the same time, most modules are connected with topics in linear and abstract algebra, algebraic geometry, and probability, and can be used as meaningful applied introductions into the relevant advanced-level mathematics courses. Open-source software is used to facilitate the computations. (Received September 22, 2010)