1077-C1-2690 Karrolyne Fogel* (kfogel@callutheran.edu) and Chris Brown. Fostering Communication Skills and Independence in a Capstone Project. Preliminary report.

CLU students currently complete a two semester capstone sequence focused on developing mathematical communication skills and independent engagement. In the first semester, students select topics of individual interest and write research proposals, in essence designing their own courses of study for the second semester. Students are fully engaged in this process: selecting the research topic, interviewing faculty, designing a schedule, even selecting the grading criteria. In the second semester, students carry out the research proposed, under the guidance of a faculty mentor, culminating in both an oral presentation and written thesis. In both semesters, students learn to formally write longer mathematics papers, from structural, mathematical, and technical (LaTeX) perspectives. We discuss our techniques for developing mathematical writing and presentation skills, as well as our attempts to encourage student participation in local conferences. We also discuss challenges, such as dealing with diverse topics and equitable grading when project goals and faculty expectations differ. (Received September 22, 2011)