This paper describes a culminating experience for senior mathematics and mathematics secondary education majors at Holy Family University. The senior seminar synthesizes various components from the undergraduate mathematics experience and introduces students to 2 essential topics in advanced mathematics: collaborative problem-solving and mathematical research techniques. Topics vary depending on student interest. The student who has successfully completed this course will become proficient in communicating in the language of mathematics, both written and orally; demonstrate a mastery of the breadth of undergraduate mathematics; and complete an in-depth and independent mathematics-related research project, integrating mathematical knowledge and techniques from several different areas. (Received September 19, 2011)