

November 27, 1984

[This is a letter of recommendation for Frank Sottile, who is applying for a Churchill Scholarship.]

[Frank Sottile is the best student I encountered in an undergraduate course in my six years of teaching at Michigan State University. During the 1982-83 academic year, Frank took the year long Real Analysis sequence of courses from me.] Although these courses are not officially listed as honors courses in the catalogue, the mathematics department treats them as honors courses and encourages only the strongest students to enroll (another sequence of courses, covering the same material, is offered for the majority of students). Thus [it is impressive that in a class filled with our top students, Frank's performance was far superior to anyone else's.]

[Real Analysis is usually the first real mathematics course for our good students, in the sense that it is usually their first course which emphasizes constructing proofs and understanding the way mathematicians think, as opposed to the earlier computationally oriented courses. Frank did not come into the class with these skills (he was only a sophomore), but he developed them quickly.] [Several times he was the only one in the class to solve a hard homework problem. In fact, I had to escalate the difficulty of the problems to make sure that Frank was challenged. I was surprised at how often he attacked a problem in the same fashion as a professional mathematician would, rather than in the more fumbling procedures of less mathematically talented students. I should add that twice I taught a similar course at MIT before coming to MSU, and Frank would also have been the best student in either of those classes. Frank is likely to be among the best graduate students at whatever graduate school he attends. It is clear that Frank has the potential to become a successful mathematician.]

[Although Frank's unique abilities in the class soon became obvious to the other students, he never made another student feel bad about the gap in their classroom performance. Frank was always generous in helping his classmates, and certainly his fellow students learned a lot from him. The high regard that other students hold for Frank is shown by his election as president of the MSU branch of the math honor society. Judging on the basis of several long discussions with Frank, my opinion is that he is a mature young man whose personality meshes well and pleasantly with his intelligence. Frank has broad and wide ranging intellectual interests; I would be very surprised if he became the kind of narrow academic scientist that is too common in our universities.]

[There is no doubt in my mind that Frank would be a fine choice for a Churchill Scholarship. I urge you to act favorably on his application.]

Sheldon Axler