



Summary and Conclusions

As a whole, the Barshinger Life Sciences and Philosophy functions as the signature building it was designed to be. The exterior's traditional appeal and the interior's modern functionality make it a strong standard for new buildings at Franklin & Marshall College. Throughout this process, I tried to keep in line with this philosophy, and show that when done properly, traditional and modern elements can co-exist, as can good aesthetic quality and high functionality.

The East Entry's use of light here is less traditional, but because it is a modern way of showing off the building's traditional elements, it does not look like a clash of styles. The functionality of this layout is the control of the light, focused on the tasks at hand rather than general ambience. As a result, this layout reduced light trespass and pollution, and also managed to stay under the energy budget. The Atrium is a standout space on its own, and the generous window areas allow a ton of daylight to penetrate and dramatize the space. What it needed was a simple focal point, and just enough light to make egress easier and the space usable for 24 hours a day. The simple discs of luminous glass draw attention without being intrusive, and the time clock allows for three different life schemes to allow for maximum usability and energy efficiency.

The Ecology Teaching Lab used a task-oriented approach to great success, putting lighting only where is needed to be. More than enough light reflected to the ground for egress, and an efficient switching layout allows the space to conserve even more energy in an already-conscious design. The Bonchek Lecture Hall is transformed with a new ceiling that adds interest and some volume, and the new lighting design shows off the new shape well. The four-scene control makes this space as multi-purpose as it wants and needs to be. As a whole, the four lighting designs did very well in sticking to their energy budget. The Atrium on its own exceeded the energy allowances, but using the extra 200W of energy saved in the laboratory, the building as a whole was able to meet ASHRAE 90.1 – 2004.

Study on the electrical breadth shows me a lot of the reasoning behind the original design. The branch circuits and lighting panels all remained relatively unaffected, and the protective device coordination study and fault current analysis showed that the system components were properly selected. The original choice of distributed transformers was a far more economical choice than a central one. The only place I found a great opportunity for savings was a proper installation of aluminum feeders, in place of the more expensive copper. Acoustically, the lecture hall is a sound design, and the new mechanical layout is able to work well in the new ceiling. The results of all of this are an efficient and functional design that allows the character of the building to come through and complements the elements of this building that have made and should make Franklin & Marshall College proud.