**SWOT Analysis:**

**Strengths:**

**Main campus:**

First, the Chemistry department’s biggest strength is our new building. The Department was moved to the Health Science building in spring of 2009. With two General Chemistry labs and one organic lab, it has helped us to offer multiple sections of Introduction to Chemistry and General Chemistry I. The Department also has an instrument room with instruments such as gas chromatography- mass spectrometry (GC-MS), high performance liquid chromatography (HPLC), ultraviolet-visible spectrometry (UV-Vis), infrared spectrometry (IR), and gas chromatography (GC), for students to use.

Second, our commitment in the alignment of laboratory experiments with lecture topics. General Chemistry I, II, and Introduction Chemistry experiments are custom made. We have designed every lab to coincide with the chapters in the text book.

Our third strength is the Department is faculty and their credentials. The department has two experienced teachers and has recently added a third a new faculty member, all with PhD in different fields of chemistry, which allows the department to use the right instructor with the right course. Also, two of the faculty have an industry background.

Another strength of the department is the support of the administration. We have been able to offer major courses such as General Chemistry II and Organic Chemistry. Although, we have had low enrollment in the past three years, fall of 2010 enrolment in Organic jumped to 9, compared to 3 to 6 of previous years. Those jumps are due to the commitment of administration to major courses, and allowing courses to be offer consistently even with low enrollment. This helps students to make long term plans as to which courses to take at East Central College, if a course is not offered in a predictable manner, students may plan to transfer earlier to a four year institution.

**Rolla Campus:**

At this point introduction chemistry is the only Chemistry course being offered at Rolla site. For years there has been a lack of continuity with the main campus. Now, there is a great attempt to ensure the curriculum is consistent with the main campus.

**Weaknesses:**

**Main campus:**

The Program mainly serves to provide the chemistry foundation needed for many other areas in the science and health fields. Low enrolment in General Chemistery II and Organic is one of department’s weaknesses.

Internal factors have always been, incorrect advising of students by consolers, and bad advising of students by other departments. In the last year, the Chemistry department has been very closely watching the advising of Health Science and Biology students, in the hopes of improving enrolment.

An external factor is UM S & T curriculum change in their chemistry requirement for engineering students. Mechanical engineering students no long required to take General Chemistry II. Another weakness in the Introduction to Chemistry course is the capacity for the course. Room Capacity is 24, therefore, students must work with Lab partner, which would influence the learning outcome. If students work alone, they would have to rely only on themselves and be forced to seek instructors for help. Since Introductory Chemistry laboratory is the first laboratory class for many students, it is important that they receive proper instructions on laboratory safety, data analysis, scientific methods, and generation of laboratory reports. Also, it is very difficult for faculty to monitor 24 students

**Rolla:**

Chemistry department’s major weakness is lack of space at the Rolla campus. There is only one lab at the Rolla campus which is used for all science classes (Chemistry, Biology, Anatomy, Microbiology, Intro to Human Anatomy and Physiology). Sharing space with Biology labs, limits space for chemicals and equipment. We cannot perform a number of experiments that main campus students carry out due to the lack of specialized equipment, and proper ventilation. Specialized equipment used for each lab must be shuffled around from period to period when in use and not in use. This can cause damage to equipment, especially when the person moving the equipment may not be familiar with how it must be handled.

There is no full-time Faculty at Rolla campus. Someone with a full time commitment would be more capable of addressing the problems as it comes up, not waiting to get response from main campus.