Top 3 Things Prospective Students (and Their Families) Should Know About Your College:

1. CEMS offers a diverse array of clubs and organizations that offer opportunities to apply the concepts students learn in the classroom to projects. Examples include the Alternative Energy Racing Organization (regularly a top finisher at the Formula-Hybrid International Competition), the American Society of Civil Engineers (a 2015 top finisher in the regional Steel Bridge competition and participant in the Steel Bridge nationals), and Engineers Without Borders, which recently designed and implemented a gray water recapturing project in Nicaragua.

2. We offer four ABET-accredited engineering degrees: Civil, Environmental, Electrical and Mechanical Engineering. (Some schools only offer Environmental Engineering as a subset or concentration within Civil Engineering; it is important for prospective students and parents to know that we offer a separate accredited Environmental Engineering degree.) We also now offer a new degree in engineering: Biomedical Engineering (with separate tracks in Biosensing and Instrumentation; Cell, Tissue & Organ Biomechanics; and Systems and Networks). We anticipate that this program will also become ABET-accredited.

3. CEMS isn’t just about engineering. We offer strong yet academically flexible degrees in Computer Science, Mathematics and Statistics. These are all hot fields right now, and students in these majors have a wealth of job opportunities in industry available to them.

What Is New For The Coming Year?
This year marks the launch of two new programs: the Bachelor of Science in Biomedical Engineering and the Bachelor of Science in Data Science.

The B.S. in Biomedical Engineering (BME) trains engineers to work at the interface between engineering and the biomedical sciences. The curriculum is structured into two phases: Foundational and Specialization.

The Foundational Phase establishes a core of math and science, builds a solid foundation in quantitative engineering methods and biomedical sciences, and exposes students to opportunities in biomedical engineering. In the Specialization Phase, students focus their studies in one of three areas:

- Biosensing & Instrumentation
- Cell, Tissue and Organ Biomechanics
- Systems and Network Biology

The BME degree leverages strong ties between UVM's School of Engineering and its College of Medicine. This BME collaboration will provide students unique biomedical opportunities in a professional setting.
The B.S. in Data Science combines courses from the disciplines of Statistics, Mathematics, and Computer Science and prepares students for careers in Big Data Science & Analytics, a rapidly growing field with huge unmet demand. The unique interdisciplinary educational experience allows students the opportunity to acquire the broad base of knowledge and skills which employers are seeking.

**Experiential Learning Opportunities:**

- **Senior Design:** Senior design projects in the engineering disciplines address real-world engineering problems in partnership with companies such as Green Mountain Coffee Roasters, Burton Snowboards and General Dynamics, government agencies such as the Department of Energy and NASA, and faculty research programs.

- **Research:** CEMS has excellent opportunities for students to engage in undergraduate research. Our graduate programs are small, and thus faculty in the college rely on talented undergrads to staff their labs. We also have summer research programs, like the Barrett Scholarship Program, through which students propose research projects under the mentorship of a faculty member. Several projects are selected for funding each year, and students spend the summer between junior and senior year engaged with faculty and graduate students in high level research. In many instances, results are suitable for presentation at regional or national conferences and/or publication. Also, awardees are honored at a special event each year, and their efforts are publicized by the University.

- **Internships:** We recently hired an in-house internship coordinator. She works closely with Career Services and local companies to develop internship opportunities for CEMS students. She also manages a competitive internship program, whereby companies reserve spots for CEMS students. Participants are placed in positions and mentored throughout the internship experience. The competitive internship program was piloted in the summer of 2015, and we expect it to grow considerably in the coming years. We are also working closely with several companies to develop cooperative education programs.

- **Study Abroad:** Study abroad in CEMS’ highly structured ABET-accredited engineering programs is doable (and encouraged!) if students begin planning early in their college career. Summer can be a great time for engineers to study abroad, as they can pick up required humanities and social science electives and not miss any key engineering courses. That said, programs like UVM’s exchange with the University of Western Australia in Perth have excellent transferable coursework during the fall and spring semesters. Second semester of sophomore year tends to be a good time for engineering students to study abroad.

**What Makes Your Program Unique Compared To Peer Institutions?**

- CEMS is home to the Department of Computer Science, the Department of Mathematics & Statistics and the School of Engineering. This structure is unlike that any academic unit in the nation. Our unique structure fosters interdisciplinary teaching and research throughout the STEM disciplines.
CEMS at UVM offers small, student-centered engineering programs within a comprehensive university setting. Our students are inevitably interested in technical schools that have excellent engineering programs, but lack opportunities for students to be involved with people, activities and academics outside of the STEM disciplines.

At UVM, you can get an engineering degree while pursuing in minor in, for example, Chinese or Community & International Development. We offer unique opportunities for students to enhance their educational backgrounds beyond the STEM fields.

**What is your college doing to further the first year experience for new students?**

- All of our first year engineering students take a first-year design course specific to their major field of study. Students engage in hands-on design, group projects, inquiry-based learning, systems thinking, critical thinking, and computational exercises.

- New in 2016-2017 is an additional first-year engineering course, ENGR 050: First Year Engineering Seminar. This course is an introduction to the field of engineering where we highlight different career options and curricular paths. This course is also designed to acclimate students to the college setting.

- Computer Science students take CS 050, a course that introduces students to the field of Computer Science. Instructors will invite guest lecturers (both UVM faculty members and industry partners) to speak with the class about their respective areas of expertise and opportunities for engagement.

**Our Graduates Have Gone On To...**

- Master’s and PHD programs at schools like Columbia, Johns Hopkins, Tufts, MIT, Duke and Stanford
- Work for companies like Burton Snowboards, Green Mountain Coffee Roasters, Google, IBM and Nike
- Invent and patent various devices, from apps to skis to weightlifting equipment