Rules for “Breaking the Rules”

Telling our story in today’s dynamic environment

September 2013

Cornell University College of Engineering
Greetings

Cornell College of Engineering has a rich history of experimentation, innovation and leadership. Today, our program is growing and thriving as never before.

At the same time, the academic environment of engineering is changing rapidly. Our College, like others, is locked in stiff competition from the other elite engineering schools.

How are we different? What are our distinctive strengths? How can we convince the best students and teachers to join us in our collective enterprise of outstanding education and research?

Looking back, delving into our history, and witnessing the exciting programs and successes around us, we see a spirit of fierce independence. We see Cornell Engineering as a community that feeds off probing analysis, scientific doubt and iconoclastic thinking.

We call this spirit:

“Breaking rules to make great things happen”

Relevance: Breaking rules in engineering today

For our field, “breaking rules” has broad, positive application. The phrase implies:

• Breaking down barriers between traditional disciplines in order to generate new perspectives and solutions.
• Producing leaders who stand apart and are intellectually prepared to solve problems by using new models of explanation.
• Encouraging students to think for themselves and strike out along whatever career path they choose.

These are hallmarks of Cornell’s College of Engineering—our past, present and future. We must talk and write about our spirit with confidence, unity and clarity, so that Cornell can continue to attract sparkling students and the most talented faculty.

This little guidebook brings it all together and gives us a common vocabulary and values for telling our story. I hope you enjoy it, learn from it, and help us break away from conventional thought to achieve positive change.

Lance Collins, Dean
Positioning our college in the marketplace

Cornell Engineering is an exhilarating ride through exciting inquiry in the company of brilliant colleagues working together toward breakthrough discoveries.

Young people who engage with our curriculum emerge with the confidence to take on any challenge. They know how to think on their own and to keep up the interests they love—and they’re accustomed to breaking rules.

Breaking rules is about bringing down the barriers between disciplines and drawing ideas from close in and distant sources. Breaking rules leads to breakthrough research. It provokes new questions and running at problems in new ways that ultimately benefit people and society.

Cornell Engineering students and faculty don’t always fit the mold. They begin as independent thinkers and are rewarded for following their instincts. Their achievements in research happen in an environment where pushing limits, stretching boundaries and yes—even breaking rules—is the essence of who we are and what we do.

“It has a rebellious feel.”
— Grad student

“It says it takes fertile minds to stoke the flames.”
— College staff-member

“I feel empowered seeing these words...I don’t feel confined in my research.”
— CE Alumna
Breaking rules means:
• Seeking breakthrough solutions
• Questioning everything
• Smashing impediments to promising research
• Crossing boundaries of disciplines to find answers
• Embracing the dynamic marketplace of ideas
• Enjoying the act of radical collaborative inquiry

“What did I learn at our College of Engineering? I learned to break the rules.”
— CE Alumna

Limits to our intent
Does our rallying cry encourage throwing apples through windows or conducting unethical research? Absolutely not.

The phrase “breaking rules” is not meant to sanction harm to people or property—just harm to stodginess and overly-constrained habits of mind. We embrace the creative, not the undisciplined. We celebrate the bold, not the reckless.

“Breaking rules” encourages intellectual questioning—taking risks—even rebelliousness in the face of dogma. We still have to absorb age-old principles of physics and math. But we dare to be skeptics and to question as we learn.
How should we speak, write and communicate? If someone proclaimed an iconoclastic ideal, you would expect them to speak with confidence, with respectful probing of all assumptions, and enthusiastic pursuit of promising new models.

Since our culture and ideals celebrate spirited, independent thought, then all our communications should be spirited and independent—not tedious and bureaucratic.

Distinctive characteristics of our Engineering College:
- Personal
- Confident
- Creative
- Expressive
- Surprising
- Positive
- Persistent
- Intellectually rebellious
- Unconventional
- Iconoclastic
- Playful
- Expressive
- Surprising
- Positive
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- Playful

Humor is an important part of our “break-the-rules” spirit.

There is a defiant side and a playful side, too. Just contemplating breaking rules has amusing implications, as identified by members of our community.

“Is there a risk in encouraging people to break the rules? This is Cornell! How many rules can you break in Ithaca?”
— Engineering faculty

“Break the rules is our new theme? What are you trying to do, get me thrown in jail?”
— Initial reaction from Dean Collins

Question:
“How do we respond if a faculty recruit—someone we’re considering—asks us what we mean by ‘break the rules’?”

Answer:
“Why do you ask? Does the phrase bother you?”
**Our voice**

**Using our phrase**

1. **break the rules** is fine for a sentence, but always with a positive benefit.
   *Our culture encourages students to break rules to take intellectual risks.*

2. **break-the-rules** hyphenated is an adjective.
   *We revel in our break-the-rules gusto.*

3. “**breaking rules**” in quotes might be necessary when one refers to the phrase itself.
   *We call our distinctive spirit “breaking rules.”*

**Phrases that reflect the spirit of the idea**

- Intellectually rebellious
- Empower students
- Breakthrough thinking
- Question established paradigms
- Challenge accepted explanations
- Challenge inherited habits of mind
- Push the limits
- Disruptive technologies
- Break the intellectual barriers to finding solutions
- Try new explanatory models
- Surprising results
- Break from the past to build a better future
- Break the mold, sweep aside barriers to progress
How to express “breaking the rules”

Our rallying cry, “breaking the rules,” is a provocative expression of an inquisitive and intellectually rebellious frame of mind. It summarizes an attitude and calls to avoid complacency. It is not a philosophy of gratuitous rebellion and narcissism. It implies belief in progress.

The best way to make our intentions clear is to tie the phrase to the purpose of the action—i.e., “Break the rules in order to achieve this or that beneficial result.”

Examples:

“ We break rules in order to discover new principles of sustainability.”

“ We break rules that hold back scientific exploration.”

“ Breaking rules in service of improving people’s quality of life.”

“ Breaking rules that textbooks perpetuate without relevant empirical support.”

“ We are ready to break through inherited paradigms that retard vital innovation in biomedical engineering.”

“ We are ready to break rules—because what we do matters to people in need.”
Our voice

Stories that reflect and reinforce our distinctive spirit

The history of our college is filled with daring rule-challengers who were proven right. Here are examples:

A competitive project team insisted—against all opposition—that they needed a certain software package even though it was on the government’s restricted list. Through persistence and determination to plead their case at all levels, the team gained permission, used the software, and won the national competition.

A professor argued that the College invest in nanoscience years before it became a critical subject of development. He believed so strongly in nanoscience that, even after being opposed by colleagues, he pressed on with his campaign and eventually achieved support to fund what has become one of the world’s premier centers of nanoscience research.

Additional stories to be supplied by you!
Here’s how to use our theme to frame messages for key audiences:

<table>
<thead>
<tr>
<th>Audience</th>
<th>Need</th>
<th>Relevance of “breaking rules”</th>
</tr>
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<tbody>
<tr>
<td>Potential students</td>
<td>To be assured that Cornell is the right place to study engineering—different from and better than competing schools and responsive to personal needs and goals.</td>
<td>Shows confidence, a youthful, rebellious spirit, and the kind of openness that welcomes and encourages new students, not promises to squelch them.</td>
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<tr>
<td>Current students</td>
<td>To feel that Cornell values their independent thinking and celebrates their personal role in the collective scientific enterprise.</td>
<td>Challenges students to question orthodoxy, test limits, and create new methods and models.</td>
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<tr>
<td>Parents</td>
<td>To know that the Cornell Engineering experience will prepare their children to compete, succeed and have a full life.</td>
<td>Proclaims a program that teaches kids to think critically, collaborate across disciplines, and acquire habits of mind that will sustain their careers in a world in flux.</td>
</tr>
<tr>
<td>Alums</td>
<td>To sustain the strong rep of school and to feel that investment in time and money nurtures the full potential of students to make a positive difference.</td>
<td>Reminds alums of Cornell’s proud, independent spirit and the potential for generating breakthrough results that extend the College’s tradition of excellence.</td>
</tr>
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<td>Corporate sponsors</td>
<td>To spend their grant money on promising students and solid engineering programs that link their names to important results.</td>
<td>Proclaims that Cornell Engineering is a unique place with a bold, confident approach to research and teaching.</td>
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<tr>
<td>Potential employers</td>
<td>Future colleagues who think out of the box, think independently, and can collaborate with current staff on solutions to strategic issues.</td>
<td>Tells employers that Cornell Engineering grads will be used to change—and adept at fomenting positive change—in today’s dynamic, competitive markets.</td>
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<tr>
<td>Talented faculty recruits</td>
<td>To know that Cornell offers an exciting environment with brilliant grad students, interesting colleagues and a collaborative, non-bureaucratic culture that gives them freedom to succeed.</td>
<td>Promises the kind of freedom talented new faculty crave, expresses an embrace of innovation, a youthful dissatisfaction with the status quo, and a willingness to challenge orthodoxy.</td>
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How can we make sure the world learns about our breakthrough thinking and surprising successes? The following questions are a resource for communicators who want to evangelize the brand, and also for skeptics who want to discover what breaking the rules means for them. The bluntness of the theme can be jarring, and these questions can be used to walk people through the thought process in a way that allows them to discover that, yes, they too are rule breakers.

- What aspect of your work most excites you?
- What promising new projects are under way at Cornell Engineering? Is there anything going on that particularly intrigues and impresses you?
- Do colleagues wander out of bounds in their thinking and pursue unexpected inquiries? Do you have examples?
- Do you believe—as one or our alumni said—that the Cornell experience can actually teach students to break rules in pursuit of innovative solutions?
- Did you ever push back and challenge accepted ways and paradigms? How did that turn out and what did you learn?
- What are the dangers of encouraging people—especially engineers—to break rules? ... How would you guard against misinterpreting the idea and preventing excesses?
- Have you had mentors who have inspired you to follow your instincts and challenge conventional thinking for the sake of seeking unexpected answers?
Capturing our tone

How can we express our break-the-rules spirit in every communication?

• **Subject:** Frame your subject as an example—even a heroic one—of someone who exemplifies the benefits of a break-the-rules mentality.

• **Language:** Use vigorous, verb-driven language to dramatize the spirit of questioning, pushing boundaries, taking risks, and looking beyond the usual sources.

• **Proof:** Choose supporting facts and examples that bring to life the act of independent thinking and its tangible results.

• **Conclusion:** Don’t be afraid to draw a strong lesson that validates break-through thinking at Cornell Engineering.

• **Visual alignment:** Make sure that imagery suits the theme.

• **Tone:** Use warmth, vigor, specificity, spontaneity, and plain English.
You would expect our classrooms and labs to buzz with questioning—even dissent. We encourage pushing back on inherited explanations. Our team projects have resulted in many victories—not by sticking to the regular patterns but by introducing new ideas from different disciplines.

Go for it!
Opportunity: Using our theme to energize presentations

What makes Cornell Engineering different? (talking points)

All engineering schools are not alike. Each has a distinctive history, culture and program. How is Cornell Engineering different?

KEY QUALITY: The independent spirit of our students and faculty

This spirit may come from our relative isolation… and our “serious” winter weather.

It is seen in our heritage of achievement, innovation and legendary pioneers.

This spirit generates unexpected questions… unconventional thinking… and has led to our record of achievement.

We summarize this spirit in our daring call to breaking the rules to advance engineering science.

Our call urges our students and faculty to:

• Challenge conventional explanations and models
• Break down the traditional boundaries of disciplines and collaborate with thinkers outside your specialty
• Raise new questions that may derail expected lines of thought… and open the way to innovation

“Breaking Rules” is the opposite of following along the usual path.

It implies impatience with dull, ponderous, risk-averse thinking.

The phrase is vigorous, provocative, irreverent… and yes, implies intellectual and professional tension… which can lead to deeper exploration and ultimate breakthroughs.

“Break the rules” does not mean mindless opposition to proven principles.

It DOES celebrate human curiosity… and the insistent questioning at the heart of human progress.

In the end, our spirit is key to our success as a leading engineering college… and to our positive contributions to society.

The legendary pioneers of Cornell’s past were rule-breakers. We believe that this generation of students will think outside the box… and make a legendary impact of their own.
Opportunity: Bring out the drama
Fact sheets don’t have to be dull. Let’s raise the intensity level—get prospective students jazzed up about their Cornell experience!

Current

The living world is all around us and within us. The biological revolution of this century has given rise to a growing demand for engineers who have studied biology and the environment, who have strong math and science skills, who can communication effectively, and who appreciate the challenges facing society. The Department of Biological and Environmental Engineering (BEE) is training the next generation of engineers to meet these challenges.

Potential

The biological revolution rages on, attracting a new generation of engineers who have exceptional science, math and communications skills and a desire to create a better world. Be part of this scientific revolution by joining Cornell’s Department of Biological and Environmental Engineering. We are…
Opportunity: Go behind the story
When reporting news, make sure to delve into the debates, crises and breakthroughs that led to success.

Current

About 30 Cornell students from mechanical and aerospace engineering, computer science, electrical and computer engineering, and other disciplines designed and built an unmanned aerial vehicle. The aircraft executed fully autonomous flights over a grid programmed by the students.

Potential

Dozens of our students—with majors as diverse as mechanical and aerospace engineering, computer science, electrical and computer engineering—recently came together in a sometimes raucous, often brilliant, always passionate creative process that resulted in an award-winning, autonomous aircraft.
Opportunity: Punch up the language
Harness magazine headlines to capture our break-the-rules mentality.

Current

Balancing Supply and Demand in Tomorrow's Electric Grid
Power Systems and Electric Grid
Students in Smart Electric Distribution Grid

Potential

Power Paradox:
Meeting booming energy demands while preserving the planet
Revolutionizing power for tomorrow’s electric grid
Students experiment with campus power, invent new approaches
Opportunity: Punch up the language—continued

Admitting a new student—it’s a perfect opportunity to declare our break-the-rules ethos while putting out the welcome mat.

Current

Congratulations on admission to Cornell’s College of Engineering! As you start the exciting process of preparing for the future, we would like to introduce you to Materials Science and Engineering (MS&E). This is an exciting and important major—and one we believe may well match your interests and skills.

Potential

Congratulations! You’ve been admitted to Cornell Engineering, where a break-the-rules mentality is how we approach our subjects. Now you’ve got a big question to answer: What exactly do you want to engineer? In the Materials Science and Engineering School, you can become a capable, broad-thinking scientist and engineer who can shape virtually any product and technology in the world.
Opportunity: Turn up the volume

University merchandise carries important symbols. Ours should project an independent frame of mind.

Examples

How about these?
Opportunity: Break out of the box

Let's put our proposition right up front—rename our communications to capture who we are and what we believe.

Examples

Current

Proposed

No Boundaries

Cornell Engineering

EAS Prof. Natalie Mahowald studies the complex impact of atmospheric aerosols on climate
How can we express our brand theme?
Here are early prototype examples.

"I doubt anything I ever do will give me the elation I felt when my own two-cubic-inch piece of electronic design controlled a living heart."
— William Greatbatch
Cornell Engineering, 1950

Break the Rules to improve the quality of human life.

“Whatever appears as a motion of the sun is really due rather to the motion of the earth."
— Nicolaus Copernicus

Break the Rules of restrictive dogma.
It’s a place where an independent, break-the-rules spirit leads to fresh ideas, new models of explanation and application, and bold innovations for the benefit of people worldwide.