

# Academic REVIEW



## Commitment to Teaching: Building on a Tradition of Excellence

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he last two decades have seen dramatic advances in Notre Dame's reputation as a leading research university. However, the University continues to maintain its traditional distinctiveness as an undergraduate institution where a commitment to teaching is paramount. In fact, Notre Dame's reputation as a distinguished

Catholic university rests squarely on its historic commitment to undergraduate education and to excellence in teaching. In recent years, that commitment has become fundamentally stronger, with even greater emphasis being given to teaching excellence, and a corresponding commitment to providing the kind of resources necessary to support and recognize faculty in this important endeavor.

Throughout the University, examples of the ongoing and renewed focus on teaching are evident. The Kaneb Center for Teaching and Learning, under the directorship of Barbara Walvoord, is improving the learning environment at Notre Dame, engaging faculty in multifaceted programs concerning teaching and learning. Through an ongoing and expanding program of seminars and workshops, the Center and its staff provide practical and research-based support and resources focused on assisting junior faculty and teaching assistants develop their teaching skills, in addition to assisting more senior faculty as they seek to enhance and renew their teaching. In addition, the Kaneb Center has initiated programs to encourage mentoring between junior and senior faculty, as well as other aspects of faculty development, working within the infrastructure of the University.

The newly inaugurated Kaneb Teaching Awards, initiated in 1999, signal a new effort to recognize distinctive teaching. Representing a departure from existing teaching awards that are restricted to a single recipient, the Kaneb Teaching Awards in 1999 were apportioned among the faculty of the University's four undergraduate colleges and its School of Architecture. Fifty Notre Dame faculty received Kaneb Teaching Awards, recognizing teaching excellence that has been demonstrated over time.

Other examples of the ongoing focus on teaching are the efforts under way within many of the colleges and departments to re-evaluate curriculums and to overhaul them as necessary to assure that both the curriculums and the teaching methodologies are current and meaningful. Our undergraduate programs clearly have worked in the past, and they must constantly be studied, revised and expanded to ensure the same high quality education for undergraduates in the future. We must always remember that we will continue to attract and retain the very best students only if we know how to teach them well.

The faculty profiles that follow provide a glimpse of some of the innovative teaching that is going on at Notre Dame by faculty members who are both talented teachers and committed academics. These are but a few examples of what happens semester after semester at Notre Dame, in classrooms throughout the campus. Perhaps most striking is the deep respect for students, combined with an excitement for the learning process, that characterizes our faculty.

Notre Dame remains a profoundly undergraduate institution. Our expectation of all faculty is that they will be engaged in both active research and active teaching. Perhaps in no other way can we best realize our commitment to undergraduates, while at the same time continuing our efforts to build a distinguished faculty serious about both academic and teaching excellence.

A handwritten signature in cursive script that reads "Nathan O. Hatch".

NATHAN O. HATCH, PH.D.  
PROVOST

**CAROLYN NORDSTROM,**  
ASSOCIATE PROFESSOR OF ANTHROPOLOGY

More than anything else, respect and enthusiasm are what Carolyn Nordstrom projects when she walks across campus, greeting an astounding number of individuals by name. Whether students, colleagues or housekeeping staff, she speaks to and asks questions of them all, essentially saying, “I know who you are. I care about you. I respect you.” Demonstrating such respect for others is fundamental to Nordstrom’s work as an anthropologist. It’s something she strives for in the field and in the classroom.

“It’s essential that students of anthropology think about the ethical implications of their work. In that way, teaching keeps me honest,” Nordstrom explains. “For while I have more factual knowledge about anthropology than my students, I don’t have more knowledge about what it means to be a human being. We’re equal in that; the students are my peers and I must respect what they bring to any discussion of humanity and culture. They won’t let me take the easy way out on the hard questions, but keep me grappling with the heart of my discipline.”

For many years, Nordstrom’s research has taken her to the front lines of wars all over the globe. She has, in her words, seen “absolute and complete destruction.” But, she asserts, the most incredible thing she has seen, in even the most abysmal of conditions, is something she was taught she would not see: human innovation, sparked by what she calls an indomitable “ethical imagination.”

“The most amazing thing I’ve learned is that the vast majority of people facing utter devastation do not themselves become violent, but instead pour all of their energies into recreating a healthy society,” she says. “These are people who are under fire, who have no food, no clothes, nothing. Yet they’re out there building schools and clinics, taking care of war’s victims.

“My work has led me to believe in an ethical imagination that is absolutely essential to human society. I can talk about this kind of thing much easier here because Notre Dame students are engaged with what they are learning, and because of the possibilities that exist for teaching, learning and community. Students here are expected to think about the larger implications of their discipline. Anthropologists believe that societies must reinvigorate themselves in order to survive. For me, that’s what education is all about. Be it in business, law, history or medicine, Notre Dame students must go from here and help craft a more vibrant society. Our society desperately needs this kind of innovation and imagination if we’re going to make it.”

Nordstrom works hard to combine lectures that cover the high points of the material with interactive exercises. “Learning doesn’t have to hurt,” she says. “I try, as much as possible, to apply the material we’re focusing on to daily life. And I’ve practiced and practiced at finding ways to be interactive; there is always a way. All of my students do interactive presentations for and with each other, no matter the class size. They listen, ask questions, even set up simulations. I’ve found that when they are tested on the presentation material, they almost always get high grades on what they have learned from each other.”



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She pauses, then adds, “But I expect a lot of my students, and I’m not an easy grader. If they love what they’re doing, I expect them to be good at it. I expect them to care.”

More than anything, Nordstrom expects her students to care about what they are learning. “What does it mean to do what you are doing?” she asks time and again. It’s the fundamental question of all education, she says. It’s what brings any discipline alive, including anthropology. For Nordstrom, listening and probing with her students, it has nothing to do with ideology, and everything to do with respect.

## JAY BROCKMAN,

ASSISTANT PROFESSOR OF COMPUTER SCIENCE AND ENGINEERING

Unlike most of his graduate students, Jay Brockman worked for several years in industry before returning to school for his Ph.D. He liked his job in Silicon Valley, where he worked as a product engineer for Intel. The work was interesting and lucrative, but a year-long assignment in the Philippines left Brockman full of questions and ideas about the interdependence of teaching and research that couldn’t be resolved within the traditional parameters of manufacturing.

“The Philippine engineers were strong; they just didn’t have as much experience with semiconductors and microelectronics. My job was to help them fill in the gap, to basically work myself out of the loop,” Brockman explains. “It was an interesting way for me to begin a career in teaching. But it’s where I developed my conviction that people’s time is precious, no matter where they live or what they’re doing, and teachers shouldn’t waste it. Teaching and living in the Third World for such an extended time made me question my own work back in California. I found myself wondering if working for Intel or a competitor was what I wanted to do for the rest of my life.”

Within months of returning to the States, Brockman was accepted into the graduate program at Carnegie Mellon. He wasn’t so much after a Ph.D. as he was the opportunities in teaching a doctorate would allow. “I wanted to both teach and do research,” Brockman says. “If research alone had been my goal, I wouldn’t have gone for a Ph.D. I was in my 30s, and could have had a very satisfying, financially rewarding job without going back to school and living on a graduate-student stipend for six years. But for me, the passion for teaching, working with students and my love for the material is inseparable from research. One is intertwined with the other.”

Brockman’s dual interests led him to Notre Dame, where a new Department of Computer Science and Engineering was being formed. With his commitment to students and his determination to throw out methodology



that doesn't work, he quickly became a favorite among Notre Dame students. In 1996 he won a college faculty teaching award. But it wasn't enough.

"I came here because of Notre Dame's institutional commitment to teaching and research. The new department was also a real enticement because I could be involved from the ground up. For my dean to let me and another faculty member work with a small group of students this year, rewriting and completely restructuring an entry-level course that will be opened to hundreds of students next year, demonstrates to me that the University is indeed serious about teaching."

Since coming to Notre Dame, Brockman has become convinced of what he calls the "percolate-up effect" of teaching, which stands conventional wisdom on its head. It's not change for the sake of change; it's change for the sake of understanding. If something works in the classroom or lab, Brockman uses it. If not, he goes back to the drawing board. It's all based on his fundamental beliefs about the nature of learning and the nature of research and change.

"Anyone involved in research wants to have an impact in his or her field. But changing the way people think about a field can only really happen in a university. I've come to believe strongly in the percolator effect, but not from the faculty mentor to his or her select graduate students, then on down. I'm convinced of the percolate-up effect. Exploring anything that has the potential of impacting a field must include undergraduate as well as graduate students. It must impact even a beginner's understanding of the field. I'm intensely interested in what happens when you have good undergraduates like the ones here at Notre Dame who ask 'Why?' When they're allowed, even encouraged to challenge conventional knowledge, ideas can begin to change, and those ideas can ultimately change a field."

Brockman believes that Notre Dame has a huge resource in the quality of its undergraduate students. And he's come to see that if he can tap into that resource as a teacher, it helps him as a researcher. "My experience has shown me that time invested in teaching can stimulate creative research ideas. But it requires a leap to trust that time seriously invested in undergrads can lead to the next great research idea."

All of this requires a lot of thought, a lot of trial and error, and a firm conviction that learning is more than content. "As a professor, I have 42 hours or so in which to engage my students," Brockman says. "My challenge is to discern, 'What is the real climax of this course, this lecture, this lab? What do I want my students to take home from it?' I spend a ton of time working on schedules and labs, thinking and rethinking the material, considering what it is I want my students to leave with and how we're going to get there. If anything, I'm continually paring down the factual content, because, let's face it, a lot of what they're learning will quickly become obsolete. My students need to know how to ask questions and make decisions in a rapidly changing environment. This is the same sort of mentality that's required for good research. It's more a matter of what to take out, what questions don't apply, than what to add."

Brockman says that he sometimes honestly forgets what he's working on when he's writing: research paper, lecture, lab? "Today's research may find its way into tomorrow's lecture, and that lecture and the student discussion it prompts may eventually find its way back into another paper or piece of research," he explains. Anything is fodder for the idea mill. Next week, his 4-year-old daughter will demonstrate to his class how to make Silly Putty by mixing Borax and Elmer's Glue, something she recently learned in preschool. Brockman says it should be the perfect lead-in to a discussion on cross links and polymer chains.



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**DENNIS JACOBS,**  
ASSOCIATE PROFESSOR OF  
CHEMISTRY AND BIOCHEMISTRY

Dennis Jacobs, a physical chemist, has been teaching at Notre Dame for 11 years. His research specialty is best summed up by asking, “What happens when a particular kind of molecule hits a non-permeable surface?” It’s the kind of question that has application for microchips and space shuttle tiles. Partly because of the subject matter, and partly because it’s who he is, Jacobs can’t remember a time when he hasn’t been very intentional about the crafting of his lectures. He can, however, remember when the focus was more on himself than on his students.

“When I first started teaching, I put a lot of effort into my lectures. I focused on the content and on the delivery itself, making

sure that the content was presented very clearly. But over the years, I’ve come to understand that the focus needs to be more on my students, on what and how they’re learning. Now I focus on them, feeling their pulse as a class, discerning if they’re ready to move on. My mission has become to discover how I can best create an environment that encourages a deep understanding of the material, not just a knowledge of it.”

Chemistry is one of those areas of study that can scare students to death, Jacobs concedes. And when students, even good students, get scared, they resort to a memorization mentality that goes something like this: Memorize every algorithm and proof in the book. Ask no questions. Try nothing creative. Pass the test.

Several years ago, Jacobs began rethinking how learning was taking place in his large general chemistry classes. Since then, he and his classes are moving in a slightly different direction. For starters, Jacobs no longer depends just on himself to deliver the material. Instead, he and his students learn cooperatively in the classroom and in the laboratory, in large groups and small, with teaching assistants and without. “I still present some material in a lecture format,” Jacobs explains, “but more than ever I want my students to think about and understand what I’m talking about.”

Jacobs says that innovative labs reinforce the students’ growing awareness that solutions come from themselves, not from proof books or somewhere else “out there.” Additionally, student groups of 20 meet weekly for an extra discussion session. Early on, the 20 are broken into smaller teams of four that remain intact throughout the semester. The teams work together to solve problems that a lone student would find difficult to solve in 40 minutes, unless the individual really knew what he or she was doing.

“We encourage good group dynamics from the beginning,” Jacobs says. “From the start, we talk about how the four individuals in the group must work together. As a team, they must review the concepts and knowledge of chemistry

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they collectively have, and then relate it to the problem. It's a little like asking them to work on a puzzle together. Some pieces will fit. Others won't." In either case, the students talk and learn from each other. At the outset, the team has four different potential answers to the problem. They must decide as a group what will and won't work, and why.

After the foursomes have agreed on their solutions, an individual from each group is randomly selected to explain it. This keeps the group from depending on one or two individuals who may have a better grasp of the concepts; every person must be able to explain the solution. "All of the solutions originate with the students," Jacobs says. "It has nothing to do with me and how I might solve the problem, and everything to do with them and how they solve it."

Jacobs finds it immensely fulfilling "to see learning taking place." Not that his work as a teacher is ever done. He was recently named a Pew Scholar for the 1999–2000 academic year, and will participate in a new program designed to help academics characterize and document the different ways learning takes place on college campuses. He and his Pew colleagues hope to develop and utilize a range of instruments that will enable them to better understand what exactly happens in classrooms, and how one classroom experience differs from another. It's an exciting, demanding project, one Jacobs feels honored to be a part of. He's not teaching this semester, but is spending hours observing classes, thinking and poring over reams of pertinent data. In other words, more than ever, he's intently focused on students and how they learn. It's exactly where Jacobs believes the focus should be.

## DAN MYERS,

ASSISTANT PROFESSOR OF SOCIOLOGY

Dan Myers admits to some initial moments of nervousness and second thoughts when he arrived at Notre Dame in January 1998. "People were talking about teaching here at Notre Dame much more than any of the other places I had talked to," he remembers. "And I had not spent that much time in front of students, especially in the previous few years when I was focused on my research and dissertation writing." But now, four teaching semesters later, Myers states that not only has the experience gone well, but the teaching and research initiatives he has introduced to his Notre Dame undergraduates are "the best thing I have ever done."

A sociologist whose research focuses on the riots and protests of the 1960s, Myers has introduced a sociology class to allow students to immerse themselves in actual research, "getting their hands dirty with data," as he puts it. Inspired by the Boyer Commission on Educating Undergraduates in a Research University report, "Reinventing Undergraduate Education: A Blueprint for America's Universities," Myers has welcomed interested undergraduates in his introductory sociology course to participate in a more intense experience using archived materials on riots and social protests that Myers was instrumental in bringing to Notre Dame. This "class within a class" has become known as the Notre Dame research workshop on riots and protest, with its goals and current research projects updated regularly on its own web page coordinated by Myers (<http://www.nd.edu/~dmyers/team/>).

Consisting of mostly sophomores and juniors, the research workshop on riots and protest meets every week, when students discuss the required reading, and





then begin delving into the yellowed newspaper clippings, reports and other archived materials, mostly on the riots and social unrest of the '60s and '70s. Working with thousands of pieces of data collected originally by the Lemberg Center for the Study of Violence and formerly operated out of Brandeis University, the materials represent the most comprehensive catalog of data on the riots and civil unrest that took place in the United States during the 1960s and early 1970s. The participating students receive training in their research tasks and work with more experienced graduate

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students to ensure consistency. "Students who have volunteered or who have been selected to participate in this more intense experience are not only learning valuable skills in analysis of real data," observes Myers, "but they are also developing their own research projects related to the data by the end of their first semester. Some of my students are even getting involved in applying for grants to help fund some of this research through the College of Arts and Letters' undergraduate research opportunities program. They can actually receive small stipends for their work and research, and even funding to pursue further areas of research that may have caught their interest."

It is not hard to see how Myers' enthusiasm and creativity has sparked the interest of his undergraduate students. "Notre Dame undergraduates generally have top-notch abilities," Myers has discovered, "but these weekly research meeting classes are unbelievable: The students are so engaged, and they are developing new ideas so rapidly, prompted by their research and their own initiatives. A sophomore member of the research team, not a sociology major, produced one of the best papers I have ever read. It could have been filed as a senior thesis.

"I see the experience as a 'win/win/win' for everyone," Myers says. "Students are learning valuable skills in research methods, organization of data, critical thinking and collaborating as part of a research team. The department has the opportunity to perhaps identify and groom some future graduate students. And I have made a big dent in the daunting task of organizing a tremendous volume of data that is central to my own research interests."

**JAMES DAVIS,**  
ASSOCIATE PROFESSOR OF MANAGEMENT

FOR THE FREE MAN THERE SHOULD BE NO SLAVERY IN LEARNING. ENFORCED EXERCISE DOES NO HARM TO THE BODY, BUT ENFORCED LEARNING WILL NOT STAY IN THE MIND. SO AVOID COMPULSION, AND LET YOUR CHILDREN'S LESSONS TAKE THE FORM OF PLAY.

— Plato, *The Republic*, vii, 536

Jim Davis holds Plato's observation on learning as his teaching credo, certainly the part about letting lessons take the form of play. Davis, a

management professor in the College of Business Administration, radiates enthusiasm when he talks about teaching, believing that one can have fun teaching anything, as long as it is done with passion. "It really doesn't matter what I teach," he says. "It's the meeting of the minds and the knowledge that education can change the way you live, the way you learn and the way you engage with the environment. I would love if students left my classes knowing all the theories. But that isn't always realistic. If they at least leave feeling that they can look at the world with new eyes, then I have been successful. That's the biggest rush I can imagine," he observes.

Davis came to teaching and to Notre Dame following a not-so-traditional path. After obtaining an undergraduate degree in history with a German minor, he first taught seventh grade, where he discovered his love of teaching. When the school needed a psychologist, he obtained his master's in psychology, and practiced for a time as a school psychologist, but missed teaching. His second master's degree, this time an M.B.A., followed, then his doctorate in corporate strategy. Teaching statistics and quantitative methods courses at the University of Iowa convinced him that one can have fun with such classes, and he became committed to teaching as a career.

Along with his ongoing research on corporate strategy and strategic positioning, Davis currently serves as academic director of the Gigot Center for Entrepreneurial Studies. Founded in 1998, the Center offers both core courses and electives that provide a comprehensive overview of entrepreneurship. The mission of the Gigot Center is to "create a sense of the possible" among students, giving them the tools and the skills necessary for successful entrepreneurial ventures. Through case studies and real business plans, students build their own knowledge base, often forming relationships and partnerships with small business owners.

Davis likes to characterize his role of teaching budding entrepreneurs as "showing them how to make their dreams come true." While acknowledging that the description sounds somewhat "Disney-like," he believes that it is an apt one. "Notre Dame students are extremely entrepreneurial, whether they are business majors or not," Davis has learned. Before the Gigot Center was founded, data was collected which showed that throughout the history of the University, Notre Dame business majors have created 800 new businesses. Interestingly, non-business majors have been responsible for the creation of over 10,000 more start-up businesses. "Our students are the best and the brightest," Davis says. "They are energetic, motivated, they have a passion to learn, and they also want to be masters of their destinies. Through the Gigot Center, we give them the skills to test the feasibility of their ideas, as well as teach them how to manage risk. The so-called "\$20 challenge" is a case in point. As part of the "Introduction to Entrepreneurship" course, each student is given \$20 and challenged to turn it into \$160 by the end of the semester. No exam or papers are required. On the basis of their ideas and creativity, students have begun businesses in web site design, photography, pottery and baking, among others, all funded by the initial \$20. In fact, a few students have well-exceeded the \$160 goal, with some earning several thousand dollars on their \$20 investment. Entrepreneurism, says Davis, is about both the passion of an idea and the terror that can come with risk taking. "Our students can handle it. They want to be captains."

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**Dr. Emil T. Hofman**, professor and dean emeritus, taught 32,000 students during a 40-year Notre Dame teaching career, and touched students' lives in many other ways while serving for 19 years as dean of the nationally renowned freshman year of studies program. He proudly names many University officials as former students, including President Edward "Monk" Malloy. "Teaching had never crossed my mind. I thought I would be a captain of industry. But when I was a student, I took a job as a teaching assistant, and from the first day in that lab, I knew what I wanted to do!" Having attained the status of the select few known by first name only, Emil is a living campus landmark who continues to maintain regular office hours at Nieuwland Science Hall, as well as at his "field offices" — three benches at various campus locations where he engages current and former Notre Dame students daily.

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he objective of the teaching process is that the student learn, and the teacher's role in this process is that of a catalyst for efficient and productive learning by the student. How the teacher performs that role depends on the character of the teacher and the conditions that prevail. During my first couple decades at Notre

Dame when I taught large numbers of very spirited young men, the role that fit me best was that of the drill sergeant, or the varsity coach, who sought to make young men "the best that they could be." As time went on and circumstances changed, I assumed the role of the benevolent but stern father figure. The device I employed most effectively was the weekly Friday morning quiz, designed to encourage effective and efficient learning through appropriate questions, answers and explanations.

Regardless of the individual teacher's methods and devices, teachers at Notre Dame understand that the purpose of education here is more fundamental and profound than career preparation alone. It is first of all the enhancement of the quality of life through general and liberal education. It also seeks to enable each student to determine the goals best suited to him or her, and to start the student on the way toward achieving those goals.

— Dr. Emil T. Hofman

## CATHERINE ZUCKERT,

PROFESSOR OF GOVERNMENT AND INTERNATIONAL STUDIES

Catherine Zuckert, who came to Notre Dame in 1998, was drawn in part because of the University's historic commitment to teaching and to undergraduate education. "Notre Dame makes a great attempt to make education more than just a mastery of skills," she believes. "There is an emphatic commitment to substance, in addition to breadth and depth." Zuckert, a member of the

Department of Government and International Studies who teaches political philosophy, believes that Notre Dame's programs like the College of Arts and Letters' core course, the first year of studies program, and the University writing program, all of which are part of the undergraduate experience, contribute to Notre Dame's focus on substance. "I see this as a reflection in part of the belief that educated persons, regardless of their ultimate academic or professional destination, should have some kind of common experience, a basis for a common language and understanding. The first year of studies program, for example, is a reflection of Notre Dame's belief that there should be some kind of common understanding shared by all students and all educated persons," Zuckert says. "Certainly the required courses in theology and philosophy are examples of one way this is experienced by students at Notre Dame."

Zuckert believes that Notre Dame helps to foster among students a basis for common understanding through the strong program of community service that has always characterized the Notre Dame experience. "The basis of these programs in large part is an attempt to help students answer the questions 'How should we live?' and 'How should we live together?' Part of the challenge to faculty members is to make what goes on in the classroom relate to what students are searching for and questioning in their own lives," Zuckert believes. "Teaching is a dialogue," she says, "a conversation that attempts to answer the question 'How should I live?' That dialogue is part of why I teach. I can't imagine ceasing to learn. But there is also my desire not to focus only on dry scholarship. Teaching reminds me of the importance of connecting scholarship with learning. Also, it is fun for me to learn from my students. Student questions do lead to research ideas."

Enrollment in Notre Dame's government department ranks among the highest at the University. Zuckert sees this in part because many students have expressed some interest in becoming lawyers. "But there is also a deep social concern among many of the government students," she has observed. "Many of my students have policy interests and are very interested in the implications of policy on our society and our world. Given the depth of Notre Dame's community service commitment, and the type of student this place tends to attract, that's not unusual. Some of these beliefs and interests are revealed in the classroom: While students may not always want to reveal their own personal beliefs, the questions they ask and the manner in which they engage in the classroom discussion reveal much about who they are, what they believe and what they wish to become."

As today's students have changed, so too have Zuckert's teaching methods. "There certainly is a transition away from lectures to a more participatory classroom experience," she says. "One has to adjust, and today's students have a great deal of visual experience. I try to integrate more videos, movies and other

visual resources into my teaching. But it won't entirely replace lectures. There is a place for that as well." Ultimately, Zuckert believes that the teacher's role is to try to make what is going on in the classroom relate to the students' lives.



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