

Computer and Mathematical Sciences

Accounting

Computer Science

Economics

Family Finance, Housing,
and Policy

Finance

Management Information Systems

Mathematics

Software Engineering

Statistics

Iowa State University has more than 100 majors that provide virtually unlimited academic opportunities. In this brochure you'll find information about your specific area of interest and a family of related majors that you may want to explore during your adventure here at Iowa State. Please use the contact information listed inside and let us help you discover your passions, unlock your potential, and **enjoy the adventure.**

Nothing makes you happier than solving a complex equation. Perhaps you see yourself as a pioneer on the job, developing innovative methods to evaluate strings of genetic information. You thrive on detail, calculating the return on your investments into the next few decades. You love working with numbers because they make sense to you. If you see patterns and formulas as a way of investigating and understanding the world, then you might investigate one of the math-related science programs at Iowa State University.

A number of choices

Whether you're interested in computer programming, discrete or continuous mathematics, or finance, Iowa State offers a diverse curriculum that prepares you to adapt your expertise to a broad career base.

Iowa State has established ties with nationally recognized companies that offer professional internships and mentoring programs. These programs encourage partnerships that impact your future employment possibilities.

The basic math or computer science curriculum provides a foundation for any of the programs listed in this brochure.

With a background in math or computer science, you learn the language of psychology, biology, computer science, business, and engineering.

This opens the door to a variety of professional opportunities—research, banking, accounting, management, statistics, teaching, programming, merchandising, investment management, public administration, and insurance.

At Iowa State, you're not just another number

You'll learn from faculty whose knowledge and expertise have earned them interna-

tional recognition, including awards for excellence in undergraduate teaching.

And Iowa State University is not short on experts! Faculty and staff actively solicit and maintain professional ties that promote research and teaching. They often serve as consultants for international companies such as Rockwell and IBM.

Our faculty are not only using cutting-edge technology, they are actively involved in researching and developing it. Faculty encourage you to go beyond your course work and take advantage of hands-on research opportunities. You don't just learn about spectacular advances in the field, you participate in their development.

Programs offer a number of unique advantages

The computer and mathematical sciences programs support you by providing services such as résumé banks, career fairs, and one-on-one mentoring.

Our students are some of the best from among 500 universities, placing in the top 13 percent on the national Putnam Examination.

Corporate partners offer significant benefits by generously donating computer equipment, hosting special events, and offering on-site technical classes.

Specialized support groups, such as learning communities, help you pursue your educational and professional goals with students who have similar interests.

Computer and Mathematical Sciences

Select an academic program that's best for you

Because so many of these programs require similar introductory course work, you have the freedom to explore and evaluate a variety of Iowa State's programs without limiting your academic options. Faculty and staff will introduce you to a broad spectrum of mathematics in order to prepare you for a career in almost any industry you can imagine. Some computer and mathematical sciences students pursue careers in business, research, or

academics. Your academic adviser will help you design a math-related curriculum that will best support your career goals.

Many students choose math-related majors or minors to broaden their career choices. Because of its broad applications, a math-related major or minor will complement any academic or professional goals you establish. For more information, please contact the person listed for each program, or phone the Iowa State University Office of Admissions at 800 262-3810.

Computer Science

Carl Chang
Department of Computer Science
226 Atanasoff Hall
Ames, Iowa 50011
Phone: 515 294-6516
E-mail: chang@iastate.edu
www.cs.iastate.edu

When you study computer science at Iowa State, you become part of a long line of innovative thinkers and dreamers—people like the late computer expert, John Vincent Atanasoff, an Iowa State University faculty member who built the first electronic digital computer and changed the world.

Our faculty and students continue to expand on his vision as they contribute, via research and teaching, to the world's rapidly changing computer science field. You'll take courses in

software engineering, programming language design, databases, operating systems, and artificial and computational intelligence.

The department operates a LAN consisting of hundreds of cutting-edge workstations. Terminal servers give you remote accessibility from your residence hall, Greek house, or apartment via dial-up or broadband links. Opportunities for undergraduates to assist faculty in research labs and participate in learning communities are available.

Management Information Systems

Richard Poist
Department of Logistics, Operations,
and Management Information Systems
2343 Gerdin Business Building
Ames, Iowa 50011
Phone: 515 294-8101
E-mail: rpoist@iastate.edu
www.bus.iastate.edu/mis

The MIS program is designed to provide you with a strong educational foundation that prepares you to be an information systems professional. The major emphasizes the application, use, and management of information systems to provide effective decision support services for organizations. You will learn technical and conceptual skills associated with the use of computers and information technology, so that

you understand how emerging technologies support and contribute to business practices.

The program stresses the links between research, theory, and practice. MIS majors have numerous opportunities to gain hands-on practice and professional experience through classroom projects, internships, and cooperative learning opportunities.

Mathematics

Justin Peters
Department of Mathematics
396 Carver Hall
Ames, Iowa 50011
Phone: 515 294-1752
Fax: 515 294-5454
E-mail: peters@iastate.edu
www.math.iastate.edu

In the 21st century economy, students in mathematics may be studying cryptography and coding theory, cellular automata for modeling in the life sciences, graphs and networks with applications to computing, or the mathematics of finance, to name only a few of the possible applications. In traditional areas such as teaching, there is projected to be a great demand for secondary teachers of mathematics in the United States over the next decade.

Majors normally spend the first two years obtaining a grounding in calculus and differential equations. At the junior and senior levels the department offers more than 25 undergraduate courses, including, for example, an introduction to combinatorics, abstract algebra, partial differential equations, complex variables, and mathematics of fractals. In addition, there are other courses at the graduate level which are open to qualified undergraduates.

Statistics

W. Robert Stephenson
Department of Statistics
327 Snedecor Hall
Ames, Iowa 50011-1210
Phone: 515 294-7805
E-mail: wrstephe@iastate.edu
www.stat.iastate.edu

In the face of uncertainty, statistics helps us answer questions, make decisions, and solve problems. Statistics is the science of collection, organization, analysis, and interpretation of numerical information or data to solve problems. As you learn these skills, you will be able to apply them to a wide variety of professional and scientific fields.

If you choose statistics as a major, you probably enjoy and have an aptitude for applied

mathematics. Your inquisitive nature and interest in numerical data will be an asset as you explore and discover new ways to understand the world around you.

As a statistician, you will communicate your findings both in writing and orally. In addition to providing you a background in statistical methods, theory, and computing skills, Iowa State has designed a curriculum that develops your ability to communicate what you've learned.

Economics

Ebby Luvaga
Department of Economics
174A Heady Hall
Ames, Iowa 50011
Phone: 515 294-5765
E-mail: luvaga@iastate.edu

As an economics major, you will study mathematics, statistics, humanities, and social and natural sciences, so that you have a broad foundation of skills to meet the diverse demands of the job market.

You will also take advanced courses that prepare you for interacting in a global market. These courses focus on the contemporary issues that drive our economy. Advanced courses include international economics, environmental and natural resource economics, industrial

organization, labor economics, and managerial economics. A unique aspect of Iowa State's program is its partnership with other programs, such as agriculture and life sciences and business. These partnerships encourage students to apply economics to their primary fields of interest.

Many economics students go on to graduate study in business, law, or further studies in economics. Others pursue business careers in government.

Finance

Rick Carter
Department of Accounting and Finance
2333 Gerdin Business Building
Ames, Iowa 50011
Phone: 515 294-9438
E-mail: rbcarter@iastate.edu

If you choose to major in finance, you will study aspects of cash and financial management critical to business growth and success. You will take advantage of Iowa State's broad curriculum, which includes courses such as the legal environment of business, discrete math for business, global perspectives, contemporary moral issues, and business statistics.

Because finance has an unlimited number of professional applications, you may want to consider complementing your studies by minoring in another field. Many of our students

go on to work as entrepreneurs, investment managers, farm managers, bank examiners, marketing directors, auditors, or property managers.

Regardless of your professional goals, you will find that Iowa State offers some unique opportunities for practicing your skills and making connections with people who work in the industry. Whether you serve as an intern or as a member of our many finance or business clubs, you will not leave Iowa State without making business contacts that could shape your future.

Accounting

Rick Carter
Department of Accounting and Finance
2333 Gerdin Business Building
Ames, Iowa 50011
Phone: 515 294-9438
E-mail: rbcarter@iastate.edu

As an accounting major, you will learn how to provide relevant financial information to both internal users (management) and external users (investors, creditors, government, and the general public).

Accounting is an integral component of managing an organization's growth and development. As an accountant you will plan, evaluate, and direct the activities of your company. Accountants play a major role in

crucial business decisions and are sought out for business advice in almost every organization.

Iowa State's program will prepare you to analyze, synthesize, and report data in an understandable manner. Your course work will focus on helping you achieve mastery of basic accounting concepts, develop an ability to think critically and creatively about accounting problems, and maintain an awareness of and sensitivity for dealing with ethical concerns.

Family Finance, Housing, and Policy

Darlene Fratzke
College of Human Sciences
0131 MacKay Hall
Ames, Iowa 50011
Phone: 515 294-6466
E-mail: hs@iastate.edu
www.hs.iastate.edu

In this curriculum you'll prepare for professional work in financial and housing resource management. You'll also learn housing and family policy that can be applied at the national, state, and local levels. When you graduate in family finance, housing, and policy, you'll have a long list of employment options that you're prepared for: financial counselor/planner, insurance agent, loan officer, mortgage originator, government housing

authority administrator, housing advocate, housing planner, real-estate agent, policy analyst and lobbyist, property manager, consumer credit or financial aid counselor. Or if you'd prefer to continue your education after your bachelor's degree, you'll be prepared to enter graduate programs in family policy and family financial planning.

Software Engineering

Gloria Cain
College of Liberal Arts and Sciences
213 Atanasoff Hall
Ames, IA 50011
Phone: 515 294-6607
E-mail: gcain@iastate.edu

Software engineering is the application of engineering processes, techniques, and principles to the development of computer software. Software engineers use teamwork, communication skills, and leadership to plan, design, develop, and improve complex software.

Iowa State software engineering majors learn a variety of programming languages, how to

manage intricate projects, and how to assess risk management in this emerging area of engineering. This major is jointly administered by the College of Engineering and the College of Liberal Arts and Sciences.

Or

Deborah L. Martin
College of Engineering
2215 Coover Hall
Ames, IA 50011
Phone: 515 294-3168
E-mail: dlmartin@iastate.edu

Computer and Mathematical Sciences

Honors and Awards

Iowa State's programs and faculty have distinguished themselves internationally.

Thirteen statistics faculty members serve as fellows of the American Statistical Association, and several faculty members have earned national awards for their contributions to undergraduate education.

Derrick Rollins, professor of statistics and chemical engineering, is a National Science Foundation Presidential Faculty Fellow and is the recipient of the Mentor Award from the American Association for the Advancement of Science.

Undergraduate statistics majors have received awards from Eli Lilly and Procter and Gamble.

Carl Chang, professor and chair of computer science, is a fellow of the IEEE Computer Society, a global organization with more than 100,000 members. He served as the society's president in 2004.

Ten percent of economics majors are honors students. Distinguished faculty are credited with significantly improving the Consumer Price Index and founding Iowa State's Center for Agricultural and Rural Development.

Internships

Internships encourage you to practice and apply what you learn. They also afford unique opportunities for you to establish a network of professional contacts as you're making decisions about your future.

Career planning and placement services throughout campus maintain lists of internships and other experiential learning opportunities.

The MIS Club hosts internship/career day workshops to prepare students for on-campus interviews and visits from industry

professionals. The club also coordinates teaching internships.

In the College of Business nearly 500 students take advantage of internship opportunities, providing them experiences in accounting, finance, logistics, marketing, operations, and MIS.

Corporate and government partnerships

Ongoing research projects provide you access to state-of-the-art technologies as they're being developed.

Statistics is now engaged in a project funded by the USDA Natural Resources Conservation Service. The program also staffs a statewide Agriculture and Home Economics Experiment Station, which coordinates collaborative research and statistical consulting services for faculty and students.

Many academic clubs gain corporate sponsors who support club and classroom activities by donating equipment, hosting conferences and receptions, and conducting workshops.

Unique opportunities

- **Math competitions**—state, national, and international competitions, including COMAP Mathematical Contest in modeling
- **Department sponsored scholarships**—financial awards for outstanding students
- **Research experience**—such as the Summer Scientific Computing Program sponsored by the National Science Foundation
- **Specialized computer labs**—including math and computer labs outfitted with state-of-the-art hardware and software specific to areas of study and interest

- **MIS Club Career Day**—a conference where students can access 50 of the region's top MIS firms
- **Computer Science Freshmen Mentoring Program**—freshmen are assigned upperclass mentors to help them get the most out of their academic experience
- **MIS Club speaker series**—featuring corporate speakers from nationally recognized industry experts such as Ernst & Young, Andersen Consulting, General Mills, and Procter & Gamble
- **Study abroad programs**—exposing students to global issues impacting their field of study

Student organizations

Students are encouraged to join clubs and professional organizations to support their academic pursuits. Organizations include:

- Computer Science Club
- Mathematical Association of America
- Society of Actuaries
- Association for Computing Machinery
- Management Information Systems Club
- Transportation and Logistics Club
- Finance and Accounting Clubs
- Minority Business Network
- Statistics Club
- Entrepreneurs Club
- Business Council
- Economics Club
- Computer-assisted Language Learning Club

Iowa State University
Office of Admissions
100 Enrollment Services Center
(Alumni Hall)
Ames, Iowa 50011-2011
Phone: 515 294-5836
Toll Free: 800 262-3810
E-mail: admissions@iastate.edu
Web: www.admissions.iastate.edu

Questions about admission

In addition to writing us at the address at left, we encourage you to visit our Web site, which features a course catalog, online application, and campus information.

Material in this brochure was accurate at the time of printing. For the most up-to-date information, visit our Web site at www.iastate.edu.

Preparing to do your best while in school

The best preparation continues to be a strong college preparatory program of study, which includes courses in English, mathematics, laboratory science, social studies, and foreign languages. If you intend to transfer credits from another institution, you may contact our Office of Admissions for assistance in selecting the best courses for your program of study.

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Iowa State University does not discriminate on the basis of race, color, age, religion, national origin, sexual orientation, gender identity, sex, marital status, disability, or status as a U.S. veteran. Inquiries can be directed to the Director of Equal Opportunity and Diversity, 3210 Beardshear Hall, 515 294-7612.