Actuarial science deals with the application of mathematics, statistics, and the principles of finance to the construction and management of insurance and pension systems. The Actuarial Science (https://wsb.wisc.edu/programs-degrees/undergraduate-bba/academics/majors/actuarial-science) major curriculum prepares students for careers with insurance companies, consulting firms, and governmental agencies. Courses offered cover the material of the associateship examinations of the Society of Actuaries and the Casualty Actuarial Society, although it is not expected that a student will complete these examinations in the course of the undergraduate program.

MISSION
The actuarial science program distinguishes itself through leadership, innovation, community, connections, networks, and recognition.

RELATED ORGANIZATIONS
Actuarial Club (http://win.wisc.edu/organization/actclub)

HOW TO GET IN
Students wishing to pursue this major must be admitted to the School of Business. Once admitted, students are able to pursue any business major they choose. To find out more about the school's admissions process for undergraduate students, please see Entering the School (http://guide.wisc.edu/undergraduate/business/#enteringtheschooltext).

REQUIREMENTS

UNIVERSITY GENERAL EDUCATION REQUIREMENTS
All undergraduate students at the University of Wisconsin–Madison are required to fulfill a minimum set of common university general education requirements to ensure that every graduate acquires the essential core of an undergraduate education. This core establishes a foundation for living a productive life, being a citizen of the world, appreciating aesthetic values, and engaging in lifelong learning in a continually changing world. Various schools and colleges will have requirements in addition to the requirements listed below. Consult your advisor for assistance, as needed. For additional information, see the university Undergraduate General Education Requirements (http://guide.wisc.edu/undergraduate/#requirementsforundergraduasteduystudytext) section of the Guide.

Business: Actuarial Science, BBA

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH/STAT 431</td>
<td>Introduction to the Theory of Probability</td>
<td>3</td>
</tr>
<tr>
<td>or STAT/ MATH 309</td>
<td>Introduction to Probability and Mathematical Statistics I</td>
<td></td>
</tr>
<tr>
<td>or STAT 311</td>
<td>Introduction to Theory and Methods of Mathematical Statistics I</td>
<td></td>
</tr>
<tr>
<td>STAT/MATH 310</td>
<td>Introduction to Probability and Mathematical Statistics II</td>
<td>3</td>
</tr>
<tr>
<td>or STAT 312</td>
<td>Introduction to Theory and Methods of Mathematical Statistics II</td>
<td></td>
</tr>
<tr>
<td>ACT SCI 300</td>
<td>Actuarial Science Methods I</td>
<td>1</td>
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<tr>
<td>ACT SCI 301</td>
<td>Actuarial Science Methods II</td>
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ACT SCI 303  Theory of Interest  3
ACT SCI 650  Actuarial Mathematics I  3
ACT SCI 652  Loss Models I  3
ACT SCI 651  or ACT SCI 653  Actuarial Mathematics II  3
ACT SCI 654  or ACT SCI 655  Loss Models II  3
ACT SCI 654  Regression and Time Series for Business Analytics  3
or ACT SCI 655  Health Analytics  3

The two statistics courses and the last ACT SCI 654 Regression and Time Series for Business Analytics or ACT SCI 655 Health Analytics (as a group of 3 courses) also fulfill the business analytics requirement found in the BBA Business Prep Requirements.

RECOMMENDED ELECTIVES

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>MATH 234</td>
<td>Calculus–Functions of Several Variables</td>
<td>4</td>
</tr>
<tr>
<td>MATH 340</td>
<td>Elementary Matrix and Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>R M I 300</td>
<td>Principles of Risk Management</td>
<td>3</td>
</tr>
<tr>
<td>FINANCE/ECON 320</td>
<td>Investment Theory</td>
<td>3</td>
</tr>
<tr>
<td>COMP SCI 200</td>
<td>Programming I</td>
<td>3</td>
</tr>
<tr>
<td>or COMP SCI 301</td>
<td>Introduction to Data Programming</td>
<td></td>
</tr>
</tbody>
</table>

Students are encouraged to take MATH 234 Calculus–Functions of Several Variables before taking probability (MATH/STAT 431 Introduction to the Theory of Probability, STAT/MATH 309 Introduction to Probability and Mathematical Statistics I, or STAT 311 Introduction to Theory and Methods of Mathematical Statistics I), courses in risk management and insurance; finance; and computer science.

UNIVERSITY DEGREE REQUIREMENTS

Total Degree  To receive a bachelor's degree from UW–Madison, students must earn a minimum of 120 degree credits. The requirements for some programs may exceed 120 degree credits. Students should consult with their college or department advisor for information on specific credit requirements.

Residency  Degree candidates are required to earn a minimum of 30 credits in residence at UW–Madison. "In residence" means on the UW–Madison campus with an undergraduate degree classification. "In residence" credit also includes UW–Madison courses offered in distance or online formats and credits earned in UW–Madison Study Abroad/Study Away programs.

Quality of Work  Undergraduate students must maintain the minimum grade point average specified by the school, college, or academic program to remain in good academic standing. Students whose academic performance drops below these minimum thresholds will be placed on academic probation.

LEARNING OUTCOMES

1. Recognize and explain the concept of risk, and apply the knowledge to the development of insurance products that are used to manage risk for the consumer as well as the risk of those products on the insurance organization.
2. Describe the actuarial profession, including the major professional organizations, the professional obligations of being an actuary, and the requirements to obtain and maintain a professional actuarial designation.
3. Demonstrate skills in critical thinking, quantitative analysis, and communication, as well as to develop an appreciation for actuarial theory, research, and the link to practical application.
4. Demonstrate the soft skills of being a professional.
5. Communicate their experiences and inspire others across the WSOB learning community.

FOUR-YEAR PLAN

This is a sample four-year plan for students directly admitted into the School of Business from high school. We encourage all students to consult with their academic advisor to develop an individualized plan that meets their specific needs.

Freshman

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
<th>Summer</th>
<th>Credits</th>
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<tr>
<td>MATH 221</td>
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<td>MATH 222</td>
<td>4</td>
<td>ACCT I S 100</td>
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<td>ECON 101</td>
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<td>ECON 102</td>
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<tr>
<td>GEN BUS 110</td>
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<td>PSYCH 202</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communications A</td>
<td>3</td>
<td>Ethnic Studies</td>
<td>3</td>
<td></td>
<td></td>
</tr>
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</table>

Sophomore

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<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
<th>Summer</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 234</td>
<td>4</td>
<td>STAT/ MATH 309, 311, or MATH 431</td>
<td>3</td>
<td>M H R 300 or MARKETING 300</td>
<td>3</td>
</tr>
<tr>
<td>ACT SCI 301</td>
<td>1</td>
<td>R M I 300</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACT SCI 303</td>
<td>3</td>
<td>FINANCE/ECON 300</td>
<td>3</td>
<td></td>
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<tr>
<td>OTM 300</td>
<td>3</td>
<td>ACCT I S 211</td>
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<tr>
<td>GEN BUS 300</td>
<td>3</td>
<td>M H R 300 or MARKETING 300</td>
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</table>

Junior

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT SCI 300</td>
<td>1</td>
<td>ACT SCI 653</td>
<td>3</td>
</tr>
<tr>
<td>ACT SCI 652</td>
<td>3</td>
<td>ACT SCI 654 or 655</td>
<td>3</td>
</tr>
<tr>
<td>STAT/MATH 310 or 312</td>
<td>3</td>
<td>Humanities, Social Science, or Literature</td>
<td>3</td>
</tr>
<tr>
<td>Humanities, Social Science, or Literature</td>
<td>3</td>
<td>Humanities, Social Science, or Literature</td>
<td>3</td>
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</tbody>
</table>
Elective 3 Communications B 3-4

Senior Fall Credits Spring Credits
ACT SCI 650 3 ACT SCI 651 3
ACT SCI 654 or 655 3 FINANCE 330 3
Science 3 GEN BUS 301 3
Ethics 4 Science 3
FINANCE/ECON 320 3 Elective 3

16 15

Total Credits 121-122

Students must choose one of the following courses: PHILOS 241 Introductory Ethics, PHILOS 243 Ethics in Business, PHILOS 341 Contemporary Moral Issues, ENVIR ST/PHILOS 441 Environmental Ethics

If you have a quick yes/no question you may always send an email to your assigned advisor.

For more information on accessing academic advising, please see our academic advising page (https://bus.wisc.edu/current-student-resources/bba/academic-support-resources/academic-advising).

For more information on accessing career advising, please see our career advising page (https://bus.wisc.edu/current-student-resources/bba/careers-internships/career-advising).

The Actuarial Club offers advising nights every fall semester to help students plan their course sequencing and professional exams.

CAREERS

Actuaries are problem solvers with expertise in understanding and managing financial risk. They use historical information and models to help predict the future. Actuaries may specialize in life and health (risk of illness, disability or death), pensions (develop and analyze retirement programs) or property and casualty (personal property risks and risks associated with businesses).

Find out more about common industries and essential skills needed to be an actuary on the BBA Actuarial Science website (https://bus.wisc.edu/bba/academics-and-programs/majors/actuarial-science).

PEOPLE

FACULTY AND STAFF IN RISK AND INSURANCE

Dan Anderson (https://bus.wisc.edu/faculty/dan-anderson), BA, MBA, Ph.D. Emeritus - Non-teaching
danderson@bus.wisc.edu

Carl Barlett (https://bus.wisc.edu/faculty/carl-barlett) Lecturer
rbarlett@wisc.edu

Richard Crabb (https://bus.wisc.edu/faculty/richard-crabb), BA, MS, FCAS Lecturer
rcrabb@wisc.edu

Gordon Enderle (http://bus.wisc.edu/faculty/gordon-enderle), BS, FSA Lecturer
genderle@wisc.edu

Edward Frees (https://bus.wisc.edu/faculty/Edward-Frees), BS, MS, Ph.D., FSA Emeritus—Non-teaching
jfrees@bus.wisc.edu

Paul Johnson (https://bus.wisc.edu/faculty/paul-johnson), BS, MS, Ph.D. Lecturer
paul.johnson@wisc.edu

Kristy Kaufman (https://bus.wisc.edu/faculty/christy-kaufman), BBA, MS Lecturer
ckaufman@amfam.com

Tyler Leverty (https://bus.wisc.edu/faculty/Tyler-Leverty), BA, Ph.D.

ADVISING AND CAREERS

ADVISING

Advising is an integral part of any student’s educational journey in the School of Business BBA Program. Starting at Student Orientation, Advising, and Registration (SOAR), we encourage all students to connect with academic advisors. BBA academic advisors have a wealth of knowledge about courses on campus, as well as policies and procedures.

BBA career advisors help students with career exploration, internships, resumes, job search, interviewing and more. We encourage students to connect with their career advisor once they arrive on campus.

BBA advisors want students to succeed. Students experiencing academic difficulty or personal struggles are encouraged to talk to their advisor about how their individual situation may affect their academic performance.

ASSIGNED ACADEMIC AND CAREER ADVISORS

For admitted BBA students, advisors are assigned by academic major. If you have more than one major, you may have more than one assigned advisor. You can find your assigned advisor by logging into your student center and looking on the right hand menu under “Program Advisor.”

For students not yet admitted to the School of Business, we have a team of pre-business advisors available to you.

ACCESSING ADVISING

If you have a quick question, no more than 15 minutes, please utilize our drop-in advising.

You may schedule a 30-minute appointment with an academic and career advisors. Advisors are trained, and have knowledge regarding all ten majors in the BBA, so if your assigned advisor is not available you can be confident to schedule an appointment with any of the BBA advisors.

Pre-business students may also schedule an appointment with a pre-business academic advisor.
Associate Professor
ty.leverty@wisc.edu

Anita Mukherjee (https://bus.wisc.edu/faculty/Anita-Mukherjee), BS, BA, MS, Ph.D.
Assistant Professor
amukherjee@bus.wisc.edu

John Mullahy (https://bus.wisc.edu/faculty/john-mullahy), BA, Ph.D.
Affiliate Professor
jmullahy@wisc.edu

Kirk Peter (https://bus.wisc.edu/faculty/kirk-peter), BS, FSA
Faculty Associate
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Peng Shi (https://bus.wisc.edu/faculty/peng-shi), BS, MS, Ph.D., ASA
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Justin Sydnor (https://bus.wisc.edu/faculty/justin-sydnor), BA, Ph.D.
Associate Professor
jsydnor@bus.wisc.edu

Yang Wang (http://bus.wisc.edu/faculty/yang-wang), Ph.D.
Assistant Professor
ywang26@wisc.edu

CERTIFICATION/LICENSE

There are several exams and credentials from the Casualty Actuarial Society (http://www.casact.org) and the Society of Actuaries (https://www.soa.org) that we prepare students to obtain during their undergraduate career. Students are encouraged to pass at least two actuarial exams before graduation in order to obtain an internship and/or job.

RESOURCES AND SCHOLARSHIPS

If you are good at math and are interested in pursuing a career as an actuary, apply for our High School Actuarial Scholarship (https://bus.wisc.edu/knowledge-expertise/academic-departments/risk-and-insurance/actuarial-profession-awareness).

ACCREDITATION

AACSB International—The Association to Advance Collegiate Schools of Business (http://www.aacsb.edu)