Risk Management (R M) Actuarial Science Option (ACTSC) Sample Schedule with Stat Minor (and SOA/CAS Exams & VEE)

(for entry into the Major at the end of the 3rd semester)

For students with 4/5 in AP Calc, good Math scores (e.g., 670 in SAT or 28 in ACT), & good GPA (3.5 out of 4 in HS & 3.50 in 1st semester)[[1]](#footnote-1)

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| **1st Semester** |  | **2nd Semester** | |
| PSU 006 *–* First Year Seminar | 1 | § **MGMT 301** *–* **Management** | 3 |
| § *ENGL 015 or 030 (GWS)* *– English Composition* | 3 | §***SCM 200 (GQ) or STAT 200*** *–* ***Statistics*** | 4 |
| § ***MATH 141 (GQ)*** *–* ***Calculus II*** | 4 | §**MATH 231 - Calculus III** | 2 |
| § *ECON 102 (GS) – Microeconomics* **VEE (B- or better or AP 4/5)** | 3 | §**ACCTG 211** *–* **Accounting** **VEE** | 4 |
| † Foreign Lang 001 | 4 | *ECON 104 (GS) – Macroeconomics* **VEE** orGen Ed (GA/GH/GS) | 3 |
| Sign up for Actuarial Science Club [listserve](http://www.psuactsci.com/) asap Semester Credits | **15** | **Semester Credits** | **16** |
| **3rd Semester** |  | **4th Semester** | |
| §**MKTG 301** *–* **Marketing** | 3 | **R M 410** *–* **Financial Mathematics for Actuaries FM Exam in June** | 3 |
| § **FIN 301** *–* **Finance VEE** | 3 | † Foreign Language 003 | 4 |
| **STAT 414***–* **Probability Theory P Exam in Jan** | 3 | CAS 100 (GWS) *–* Speech Communication | 3 |
| † Foreign Language 002 | 4 | HPA 057 - Consumer Choices in Health Care (GHA) | 3 |
| Elective: for example, RM 297 Review of Probability Theory | 1.5 | Elective to equal or exceed 0.5 credits: e.g., Math 220 – Matrices | 2 |
|  |  | **STAT 416 - Stochastic Processes helps on CAS Exam S** | 3 |
| **Attend Resume Workshop & Career Fair Semester Credits** | **14.5** | **Mock Interviews with Mentors Semester Credits** | **18** |
| **5th Semester** |  | **6th Semester** | |
| **RM 415 - Financial Models for Actuaries MFE exam in Nov** | 3 | **R M 411 - Actuarial Mathematics I** | 3 |
| **R M 320W - Risk Management & Insurance** | 3 | General Education Natural Sciences (GH/GS/GA) | 3 |
| B A 342 *–* Business Ethics | 3 | Gen Education (GA/GH/GS) or *ECON 104 (GS) – Macroeconomics* | 3 |
| General Education (GN) | 3 | *ENGL 202D – Business Writing* | 3 |
| MIS 204 - Business Information Systems | 3 | B LAW 341 *–* Business Law I: Contracts, Liability & Property | 3 |
| **STAT 415 - Mathematical Statistics VEE & helps with RM 412** | **3** | **STAT 483 – SAS (helps with job)** | 3 |
| **Semester Credits** | **18** | **Semester Credits** | **18** |
| **7th Semester** |  | **8th Semester** | |
| **R M 412** *–* **Actuarial Mathematics II MLC Exam in October** | 3 | **R M 420** *–* **Property and Casualty Insurance C Exam in June** | 3 |
| **R M 430** *–* **Life and Health Insurance** | 3 | General Education (GA/GH/GS) | 3 |
| B A 411 *–* Analyzing Business and Industry | 3 | General Education (GA/GH/GS) | 3 |
| General Education Natural Science (GN) | 3 | General Education Natural Science (GN) | 3 |
|  |  | General Education (GA/GH/GS) | 3 |
| **STAT 462 – Regression Analysis VEE, SRM exam, or CAS Exam S** | 3 | **STAT 463 – Time Series Analysis** **VEE, SRM exam, or CAS Exam S** | 3 |
| **Semester Credits** | **15** | **Semester Credits** | **18** |

§ Entrance-to-Major courses

† Students must complete 12th credit level in a foreign language. Credits vary based on skill level.

Courses in **Bold** required a grade of "C" or higher. Courses in *Italics* satisfy general education and degree requirements.

Actuarial Science students need to be very good in Mathematics (particularly Calculus and Sums of Geometric Series) to be successful in getting an actuarial degree. Actuarial students often get a 4 or 5 in the AP Calculus Exam and can skip MATH 140 and go right into MATH 141. Use this [Math Department advising website](https://www.math.psu.edu/undergraduate/advising/vs) to determine whether that makes sense for you. It can help you get to the actuarial exam courses sooner.

This sample schedule helps you pass 3 actuarial exams by your Junior year, which is valuable for getting an internship and a full-time job. However, there is a risk that your ETM & Overall GPAs could go below 3.20, making it impossible to pursue any Smeal Majors. Please make your decision carefully, taking into account your abilities & commitment to this rigorous plan. If you find that your GPA could go below 3.20, you can late drop a course, but then actuarial science may not be right for you, in which case you should consider other majors.

* Students can take MATH 230 (4) as an alternative to MATH 231 (2)
* ACCTG 211 can be taken via web in the summer from anywhere. Smeal students can only take the UP web version, not the World Campus version.
* It is valuable to take RM 297 in the third semester with STAT 414, as it helps you pass STAT 414 and the Probability Theory exam given by the Society of Actuaries.
* RM 320w, 412, 415, 430 are offered in the fall semester only. R M 411, 401, 420 are offered in the spring semester only.
* STAT 414 – Introduction to Probability Theory (3) can be taken concurrently with MATH 231 if you also take RM 297 concurrently
* R M 401 – Fundamentals of Private Pensions: can be taken instead of RM 420
* STAT 483 – SAS: can be taken instead of RM 415
* Sign up for the Actuarial Science [listserve](http://www.psuactsci.com/) asap as it provides lots of great information on the Actuarial Science Career Fair, Employer Information Sessions, the Actuarial Exams, how to get internships and jobs, and Actuarial Science club meetings.
* Students pursuing an actuarial career should take VEE courses in <http://www.soa.org/education/exam-req/edu-asa-req.aspx> before graduation. Thus, take STAT 462/463 even though not required for graduation. Seniors can take STAT 501 instead of STAT 462 and can get Honors credit for it. In addition, employers are looking for students who know R well (and it is taught in STAT 462/463). **Students must earn a B- or better in all VEE courses**.
* Consider a STAT minor, as you only need STAT 480 (1 credit in SAS), STAT 415 (Mathematical Statistics), and STAT 416 to get it. STAT 415 helps with Exams C (RM 420) and LTAM (RM 412) starting in 2018. STAT 416 helps with the CAS Exam S. We encourage you to take MATH 220 as it helps with Efficient Frontiers in RM 415 (MFE Exam) and Markov Chains in RM 412 (MLC Exam). Knowing SAS well helps you get a job, so taking STAT 483 (3 credits in SAS) is better. Employers are looking for students who know SAS and R well.
* If you need to take STAT 414 from the World Campus and can’t register for it, provide Ron Gebhardtsbauer ([rug16@psu.edu](mailto:rug16@psu.edu)) your GPA, Calculus grades, and Students ID number, so that he can ask the Statistics Department to enroll you.
* We encourage students to Study Abroad in the winter and summer breaks. It is important to do an internship in the summer after your junior year, as employers generally want Full-Time candidates to have had an internship.

Also include all the other footnotes that you currently have on your sample schedules. Note that ACCTG 211 can be taken at most Commonwealth Campuses in Spring, but if not, they can take the summer online UP class from anywhere.

1. Has it been more than a year since you last took calculus? Are you dependent on your teacher to learn the material? Do you have trouble reading math textbooks and learning material on your own? Do you memorize formulas as opposed to understanding the concepts? Do you feel that your high school has not adequately prepared you for a college course in math? Do you need an A in Calculus to get your GPA above 3.20? If you answered “yes” to any of these questions, you should consider taking MATH 140 in the first semester. [↑](#footnote-ref-1)