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

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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)*** *–* ***Statistics*** | 4 |
| § ***MATH 140 (GQ)*** *–* ***Calculus I or*** § ***MATH 141 (GQ)*** *–* ***Calculus II*** | 4 | §**MATH 141 (GQ)***–* **Calculus II or MATH 231 (2) - Calculus III**  | 4 |
| § *ECON 102 (GS) – Microeconomics* VEE (B- or better or AP 4/5) | 3 | §**ACCTG 211** *–* **Accounting** - VEE (B- or better or AP 4/5) | 4 |
| † Foreign Lang 001 | 4 | Health/KINES (GHA) | 1.5 |
| Sign up for Actuarial Science Club [listserve](http://www.psuactsci.com/) asap Semester Credits | **15** |  | **16.5** |
| **3rd Semester** |  | **4th Semester** |
| §**MKTG 301** *–* **Marketing** | 3 | **R M 410** *–***Compound Interest & Annuities (FM in June) or** General Education Natural Science (GN) | 3 |
| § **FIN 301** *–* **Finance** - VEE (B- or better or AP 4/5) | 3 | † Foreign Language 003 | 4 |
| **MATH 231** *–* **Calculus III or elective Math 220 Matrices** | 2 | CAS 100 (GWS) *–* Speech Communication | 3 |
| † Foreign Language 002 | 4 | *ECON 104 (GS) – Macroeconomics* - VEE (B- or better or AP 4/5) | 3 |
| **STAT 414***–* **Probability Theory (P Exam in Jan)** | 3 | Elective to equal or exceed 0.5 credits: Math 220 – Matrices | 2 |
| Elective: RM 297 Review of Probability Theory needed for STAT 414 | 1.5 | **STAT 416 - Stochastic Processes (helps on Exams C and S)** | **3** |
| **Attend Resume Workshop & Career Fair Semester Credits** | **16.5** | **Mock Interviews with Mentors Semester Credits** | **18** |
| **5th Semester** |  | **6th Semester** |
| **RM 415 Financial Models for Actuaries (MFE in Nov) or****R M 410** *–* **Compound Interest & Annuities (FM Exam Dec)**  | 3 | **R M 411: Actuarial Mathematics I**  | 3 |
| **R M 320W: Risk Management & Insurance** | 3 | General Education Natural Sciences (GH/GS/GA) | 3 |
| General Education (GA/GH/GS) | 3 | Gen Education (GA/GH/GS) | 3 |
| B LAW 341 *–* Business Law I: Contracts, Liability & Property | 3 | *ENGL 202D – Business Writing* | 3 |
| General Education (GN) | 3 | B A 342 *–* Business Ethics | 3 |
| **STAT 415 - Mathematical Statistics (VEE - helps Exam LTAM & 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 - October** | 3 | **R M 420** *–* **Property and Casualty Insurance C Exam – June*****or* R M 401** *–* **Fundamentals of Private Pensions** | 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 |
| MIS 204 Business Information Systems | 3 | General Education Natural Science (GN) | 3 |
| General Education Natural Science (GN) or **RM 415 Financial Models for Actuaries or STAT 483 SAS** | 3 | Health/KINES (GHA) | 1.5 |
| **STAT 462, 501or 421 – Regression Analysis** - VEE (B- or better or AP 4/5) | 3 | **STAT 463 – Time Series Analysis** - VEE or **CAS Exam S** | 3 |
| **Semester Credits** | **18** | **Semester Credits** | **16.5** |

**Advising Notes:**

* 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 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 an actuarial exam course sooner, but if you are not ready for MATH 141, there is a risk that your ETM & Overall GPAs could go below 3.20 (3.50 for Finance), making it impossible to pursue those Smeal Majors. Please make your decision carefully, taking into account your abilities & commitment to this rigorous plan.
* **Preferred**: To take RM 410 in 4th semester and RM 415 in 5th semester, you need to meet all the [ETM requirements](https://ugstudents.smeal.psu.edu/academics-advising/get-into-a-smeal-major/entrance-to-major-requirments) (including keeping your GPA at 3.20 or better and having at least 44 credits at Penn State) **to enter your major by the end of your 3rd semester.**  This helps you pass 2 exams in your Sophomore year, get an internship, and enables you to take RM 415 in the Fall of your Junior year.
* **Alternative**: Students can also take RM 410 in the 5th semester. You would then need to take RM 415 in the 7th semester at the same time as RM 412, or STAT 483 instead of RM 415. Note however, that RM 415 helps you pass the MFE exam, and 3 exams are important for getting a job. Plan ahead for which exam you would like for your third exam.
* 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 as an elective in the third semester and take it concurrently with STAT 414, as it helps you pass STAT 414 and the Probability Theory exam given by the Society of Actuaries.
* RM 320, 412, 415, 430 are offered in the fall semester only. R M 411, 401, 420 are offered in the spring semester only.
* 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) 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.