Actuarial Science (B.S.)

College of Sciences
Department of Statistics,
Technology Commons II, Room: 212
http://www.statistics.cos.ucf.edu
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Admission Requirements

- None

Degree Requirements

- Students who change degree programs and select this major must adopt the most current catalog.
- Departmental Residency Requirement: at least 15 semester hours of regularly scheduled 3000-4000 level courses must be taken from the UCF Statistics Department.
- Students must earn at least a "C" (2.0) in each course with an STA prefix.
- Students must achieve a minimum 2.0 cumulative GPA in all computer science and mathematics courses satisfying major requirements.
- Students must achieve a minimum cumulative GPA of 2.0 in all courses satisfying major requirements.
- Co-op or internship credit cannot be used in this major without prior approval.
- Students should consult with a departmental advisor.
- All prerequisites of courses taught within the College of Sciences will be enforced.
- Courses designated in 1 (General Education Program) are generally spread over 4 years, and those designated in 2 (Common Program Prerequisites) are usually completed in the first 60 hours.
- All statistics courses except the following, and those protected by Florida Common Course Numbering must be taken from, or approved by the Statistics Department at UCF.

STA 2023	Statistical Methods I	3 hrs
STA 3032	Probability and Statistics for Engineers	3 hrs

1. UCF General Education Program (GEP) (39 hrs)
A: Communication Foundations (9 hrs)
B: Cultural & Historical Foundations (9 hrs)
C: Mathematical Foundations (7 hrs)

Required	MAC 2311	Calculus with Analytic Geometry I	4 hrs
Required	STA 2023	Statistical Methods I	3 hrs

D: Social Foundations (6 hrs)
Economics 3 hrs

Prefer	ECO 2013	Principles of Macroeconomics	3 hrs

Social Sciences: Select one. 3 hrs

Required	ANT 2000	General Anthropology or	3 hrs
Required	PSY 2012	General Psychology or	3 hrs
Required	SYG 2000	Introduction to Sociology	3 hrs

E: Science Foundations (8 hrs)
Life Science: 4 hrs

Required	BSC 2010C	Biology I	4 hrs

Physical Science: 4 hrs

Required	CHM 2045C	Chemistry Fundamentals I or	4 hrs
Required	PHY 2053C	College Physics I	4 hrs

2. Common Program Prerequisites (CPP) (14 hrs)

- See "Common Prerequisites" in the transfer and transitions Services section for more information, including some possible substitutes.

COP 3223C	Introduction to Programming with C	3 hrs
ECO 2013	Principles of Macroeconomics	GEP
ECO 2023	Principles of Microeconomics	3 hrs
MAC 2311C	Calculus with Analytic Geometry I	GEP
MAC 2312	Calculus with Analytic Geometry II	4 hrs
MAC 2313	Calculus with Analytic Geometry III	4 hrs

Complete two laboratory courses designed for science majors;

- The state of Florida requires Actuarial Science majors to take two laboratory-based science courses designed for science majors. Students must complete 8 credits of the following courses, and depending on what was taken in the GEP, this requirement may already be satisfied.
- Note: both semesters do not have to be in the same subject area.
- Note: depending on which courses were taken in the GEP, this requirement could require 0 to 8 credits to complete.

Select two semesters within the following;

- See Basic Core for details.

Biology majors courses with labs or
Chemistry majors courses with labs or
Physics majors courses with labs

3. Core Requirements: Basic Level (3 hrs)

- All courses specifically identified in the preceding Common Program Prerequisites section of this catalog are also required in the Basic Core, and must be taken;

COP 3223C	Introduction to Programming with C	CPP
ECO 2013	Principles of Macroeconomics	GEP
ECO 2023	Principles of Microeconomics	CPP
MAC 2311C	Calculus with Analytic Geometry I	GEP
MAC 2312	Calculus with Analytic Geometry II	CPP
MAC 2313	Calculus with Analytic Geometry III	CPP
STA 2023	Statistical Methods I	GEP
ACG 2021	Principles of Financial Accounting	3 hrs

4. Core Requirements: Advanced Level (49 hrs)

FIN 3403	Business Finance	3 hrs
STA 4163	Statistical Methods II	3 hrs
STA 4164	Statistical Methods III	3 hrs
STA 4321	Statistical Theory I	3 hrs
STA 4322	Statistical Theory II	3 hrs
STA 4852	Applied Time Series	3 hrs
STA 4183	Theory of Interest	3 hrs
STA 4184	Introduction to Derivative Markets	3 hrs
STA 4186	Theory of Derivative Pricing	3 hrs
STA 4130	Life Contingencies I	3 hrs
STA 4131	Life Contingencies II	3 hrs
STA 4133	Loss Models I	3 hrs
STA 4135	Loss Models II	3 hrs
COT 4500	Numerical Calculus	3 hrs
ENC 3241	Writing for the Technical Professional	3 hrs
MAS 3105	Matrix and Linear Algebra	4 hrs

5. Restricted Electives (6 hrs)

- Select from upper division or graduate (5000 level) statistics, mathematics, or computer science courses.
- Selected courses in business may be used only with prior approval by the Department of Statistics.
- The following courses cannot be used to satisfy this requirement:

MAC 2233	Concepts of Calculus	3 hrs
MAC 2253	Applied Calculus	3 hrs
MAC 2254	Applied Calculus II	3 hrs
MHF 4404	History of Mathematics	3 hrs

All MAE courses

6. Capstone Requirements

- None

7. Foreign Language Requirements
Admissions

- Two years of one foreign language in high school, or one year of one foreign language in college (or equivalent proficiency exam) prior to graduation.

Graduation

- None

8. Electives (9 hrs)

- Select primarily from upper level courses, with departmental advisor's approval. May be outside of the department.

9. Additional Requirements

- None

10. Required Minors

- None

11. Departmental Exit Requirements

- Students must earn at least a "C" (2.0) in each course with a STA prefix.
- Students must achieve a minimum 2.0 cumulative GPA in all computer science and mathematics courses satisfying major requirements.
- Take SOA Exam P (Probability) and report the score to the department.
- Students must achieve a minimum cumulative GPA of 2.0 in all courses satisfying major requirements.

12. University Minimum Exit Requirements

- A 2.0 UCF GPA
- 60 semester hours earned after CLEP awarded
- 48 semester hours of upper division credit completed
- 30 of the last 39 hours of course work must be completed in residency at UCF.
- A maximum of 45 hours of extension, correspondence, CLEP, Credit by Exam, and Armed Forces credits permitted.
- Complete the General Education Program, the Gordon Rule, and nine hours of Summer credit.

Total Semester Hours Required

- 120

Honors In Major

- None

Related Programs

- Mathematics
- Mathematics Education
- Statistics

Certificates

- None

Related Minors

- Actuarial Science
- Statistics
- Mathematics

Advising Notes

- It is the student's responsibility to ensure they have satisfied course prerequisites before registering for a class.

Transfer Notes

- Lower division courses do not substitute for upper division courses.
- Courses transferred from private and out-of-state schools must be evaluated for equivalency credit. The student must provide all supporting information.

Acceptable Substitutes for Transfer Courses

- The following substitutions are acceptable for Common Program Prerequisites if taken as part of the AA course work.
- Computer Science: any COP programming language course will satisfy the CPP. However, the listed course is a prerequisite for Computer Science courses and still may need to be taken.
- Biology: any 2 laboratory courses for majors with BSC, CHM, or PHY prefixes will satisfy the CPP. However the listed biology courses are also a core requirement and need to be taken.
- Statistics: although any STA 2XXX course will satisfy the CPP, the listed course is required in the program's core and will still need to be taken.

Plan of Study

- This is one of numerous possible plans of study. See program description for all requirements. Consult a departmental advisor for alternate, new or more appropriate selections.
- Prior to enrolling in Chemistry, take Chemistry Placement Test ~ *http://knightsource.seds.ucf.edu/placement*
- Prior to enrolling in Math, take Math Placement Test ~ *http://utc.sdes.ucf.edu*
- Although all classes are listed as being taken during the academic year, you may be required to complete 9 hours of them during the Summer. Consult with an advisor to determine if you are exempt.

Freshman Year - Fall		**16 hrs**
ECO 2013	Principles of Macroeconomics	3 hrs
ENC 1101	Composition I	3 hrs
MAC 2311	Calculus with Analytic Geometry I	4 hrs
STA 2023	Statistical Methods I	3 hrs
GEP		3 hrs

Freshman Year - Spring		**16 hrs**
ENC 1102	Composition II	3 hrs
ECO 2023	Principles of Microeconomics	3 hrs
MAC 2312	Calculus with Analytic Geometry II	4 hrs
STA 4163	Statistical Methods II	3 hrs
GEP		3 hrs

Sophomore Year - Fall		**16 hrs**
STA 4164	Statistical Methods III	3 hrs
COP 3223C	Introduction to Programming with C	3 hrs
MAC 2313	Calculus with Analytic Geometry III	4 hrs
ACG 2021	Principles of Financial Accounting	3 hrs
STA 4321	Statistical Theory I	3 hrs

Sophomore Year - Spring		**16 hrs**
STA 4852	Applied Time Series	3 hrs
FIN 3403	Business Finance	3 hrs
BSC 2010C	Biology I	4 hrs
COT 4500	Numerical Calculus	3 hrs
STA 4322	Statistical Theory II	3 hrs

Junior Year - Fall		**14 hrs**
ENC 3241	Writing for the Technical Professional	3 hrs
STA 4183	Theory of Interest	3 hrs
MAS 3105	Matrix and Linear Algebra	4 hrs
PHY 2053C	College Physics I	4 hrs

Junior Year - Spring		**15 hrs**
GEP		3 hrs
Restricted Elective		3 hrs
STA 4184	Introduction to Derivative Markets	3 hrs
GEP		3 hrs
Elective		3 hrs

Senior Year - Fall		**15 hrs**
GEP		3 hrs
STA 4130	Life Contingencies I	3 hrs
STA 4133	Loss Models I	3 hrs
STA 4186	Theory of Derivative Pricing	3 hrs
Restricted Elective		3 hrs

Senior Year - Spring		**12 hrs**
STA 4131	Life Contingencies II	3 hrs
STA 4135	Loss Models II	3 hrs
Elective		3 hrs
Elective		3 hrs

Program Academic Learning Compacts

- Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at: *http://www.oeas.ucf.edu/alc/academic_learning_compacts.htm*