Statistics (B.S.)

College of Sciences
Department of Statistics,
Computer Center II, Room: 212
http://statistics.cos.ucf.edu/
Email: statistics@ucf.edu
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Phone: 407-823-2289

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 a STA prefix.
■ A minimum 2.0 average is required in all computer science and mathematics courses that count toward a statistics major.
■ Co-op or internship credit cannot be used in this major.
■ 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.

1. UCF General Education Program (GEP) (39 hrs)

■ Certain courses must be selected in the GEP for this major bringing the total hours to more than 36.

A: Communication Foundations (9 hrs)

B: Cultural & Historical Foundations (9 hrs)

C: Mathematical Foundations (7 hrs)

Required
MAC 2311C 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.

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 2048C Physics for Engineers & Scientists I or 4 hrs

2. Common Program Prerequisites (CPP) (11 hrs)

■ See “Common Prerequisites” in the Transfer and Transitions Services section for more information, including some possible substitutes.

Complete two laboratory courses designed for science majors;

■ The state of Florida requires Statistics 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 between 0 and 8 credits to complete.

Select two semesters within the following;

■ See Basic Core for details.

■ Biology majors’ courses with labs

■ Chemistry majors’ courses with labs

■ Physics majors’ courses with labs

3. Core Requirements: Basic Level

■ 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;

Core: Required, satisfies the CPP

COP 3223C Introduction to Programming with C and CPP
MAC 2311C Calculus with Analytic Geometry I and GEP/CPP
MAC 2312 Calculus with Analytic Geometry II and CPP
MAC 2313 Calculus with Analytic Geometry III and CPP
STA 2023 Statistical Methods I CPP

- and two semesters equivalent within the following:

■ These satisfy the requirement for two semesters equivalent of science courses with labs designed for majors.

■ CHM 2045C Chemistry Fundamentals I and GEP/CPP

■ or an alternate sequence

■ These two semesters only count as one, and are considered as equivalent to the above course.

■ CHM 2040 Chemistry Fundamentals IA and GEP/CPP

■ or complete both

■ Lecture plus lab count as one semester.

■ CHM 2046 Chemistry Fundamentals I and CPP

■ or

■ BSC 2010C Biology I or GEP/CPP

■ BSC 2011C Biology II or CPP

■ PHY 2048C Physics for Engineers & Scientists I or GEP/CPP

■ PHY 2049C Physics for Engineers and Scientists II CPP

4. Core Requirements: Advanced Level (40 hrs)

STA 4102 Computer Processing of Statistical Data 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
ENC 3241 Writing for the Technical Professional 3 hrs
COT 4500 Numerical Calculus 3 hrs

Select from the following courses; 4 hrs

MAS 3105 Matrix and Linear Algebra or 4 hrs
MAS 3106 Linear Algebra 4 hrs

Select from the following courses; 3 hrs

COT 3100C Introduction to Discrete Structures or 3 hrs
MTH 3302 Logic and Proof in Mathematics 3 hrs

Select from the following courses; 12 hrs

STA 3096 Statistical Graphics or 3 hrs
STA 4173 Biostatistical Methods or 3 hrs
STA 4183 Theory of Interest or 3 hrs
STA 4184 Introduction to Derivative Markets or 3 hrs
STA 4185 Theory of Derivative Pricing or 3 hrs
STA 4222 Sample Survey Methods or 3 hrs
STA 4502 Nonparametric Statistical Methods or 3 hrs
STA 4504 Categorical Data Analysis or 3 hrs
STA 4664 Statistical Quality Control or 3 hrs
STA 4852 Applied Time Series 3 hrs
5. Restricted Electives (9 hrs)
- Select from upper division or graduate (5000 level), statistics, mathematics, or computer science courses.
- Selected courses in engineering or business may be used but must first be approved by the Statistics Department.
- The following courses cannot be used to satisfy this requirement:
  - MAC 2333 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
- Select primarily from upper level courses after meeting with a departmental advisor. Courses may be outside the department.
- The following courses from business may be used without prior approval by the Statistics Department.
  - ACG 2021 Principles of Financial Accounting 3 hrs
  - ACG 2071 Principles of Managerial Accounting 3 hrs
  - ECO 2023 Principles of Microeconomics 3 hrs
  - FIN 3403 Business Finance 3 hrs

9. Additional Requirements
- None

10. Required Minors
- None

11. Departmental Exit Requirements
- Earn a grade of “C” (2.0) or better in each STA course.
- Take SOA Exam P (Probability) and report the score to the department.

12. University Minimum Exit Requirements
- 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 - Applied Track
- Mathematics Education

Certificates
- None

Related Minors
- 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 Sciences 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 will 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 (120 hrs)
- 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.sdes.ucf.edu/placement
- Prior to enrolling in Math, take Math Placement Test ~
  http://utc.sdes.ucf.edu/math/
- 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 13 hrs
- MAC 2311C Calculus with Analytic Geometry I 4 hrs
- STA 2023 Statistical Methods I 3 hrs
- ENC 1101 Composition I 3 hrs
- GEP 3 hrs

Freshman Year - Spring 15 hrs
- MAC 2312 Calculus with Analytic Geometry II 4 hrs
- BSC 2010C Biology I 4 hrs
- ENC 1102 Composition II 3 hrs

Select one course:
- CHM 2045C Chemistry Fundamentals I or 4 hrs
- PHY 2053C College Physics I 4 hrs

Sophomore Year - Fall 16 hrs
- MAC 2313 Calculus with Analytic Geometry III 4 hrs
- STA 4163 Statistical Methods II 3 hrs
- ECO 2013 Principles of Macroeconomics 3 hrs
- GEP 3 hrs
- GEP 3 hrs

Sophomore Year - Spring 15 hrs
- STA 4164 Statistical Methods III 3 hrs
- COP 3223C Introduction to Programming with C 3 hrs
- Core Course 3 hrs
- Core Course 4 hrs

Junior Year - Fall 15 hrs
- STA 4321 Statistical Theory I 3 hrs
- Restricted Elective 3 hrs
- Restricted Elective 3 hrs
- Core Course 3 hrs
- Core Course 3 hrs

Junior Year - Spring 16 hrs
- STA 4322 Statistical Theory II 3 hrs
- Core Course 3 hrs
- Free Elective 3 hrs
- Elective / Minor 3 hrs
- Elective / Minor 3 hrs

Senior Year - Fall 15 hrs
- STA 4102 Computer Processing of Statistical Data 3 hrs
- COT 4500 Numerical Calculus 3 hrs
- ENC 3241 Writing for the Technical Professional 3 hrs
- Core Course 3 hrs
- Elective / Minor 3 hrs
- Take SOA EXAM P (Probability).
### UCF Degree Programs

#### Senior Year - Spring

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### Program Academic Learning Compacts

- Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at:
  
  http://www.oeyes.ucf.edu/academiclearningcompacts.html