

# UCF Degree Programs

## Statistics (B.S.)

College of Sciences

Department of Statistics,

Computer Center II, Room: 212

<http://statistics.cos.ucf.edu/>

Email: [statistics@ucf.edu](mailto:statistics@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 a 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.
- 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)

- 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
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#### 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
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#### 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) (11 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
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
STA 2023	Statistical Methods I	GEP

### 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 or
- Chemistry majors' courses with labs or
- 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 | 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
CHM 2041	Chemistry Fundamentals IB	GEP/CPP

#### - or complete both

- Lecture plus lab count as one semester.

CHM 2046	Chemistry Fundamentals II and	CPP
CHM 2046L	Chemistry Fundamentals Laboratory	CPP

#### - or

BSC 2010C	Biology I or	GEP/CPP
BSC 2011C	Biology II or	CPP
PHY 2048C	General Physics Using Calculus I or	GEP/CPP
PHY 2049C	General Physics Using Calculus 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
MHF 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 4186	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

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### 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 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

- 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

- 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.
- Students must achieve a minimum cumulative GPA of 2.0 in all courses satisfying major requirements.
- Take SOA Exam P (Probability) and report the score to the department.

### 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 - 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>

- 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: 4 hrs

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

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### 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).		

### Senior Year - Spring 15 hrs

GEP		3 hrs
GEP		3 hrs
Elective / Minor		3 hrs
Elective / Minor		3 hrs
Elective / Minor		3 hrs

### Program Academic Learning Compacts

■ Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at:  
[http://www.oas.ucf.edu/alc/academic\\_learning\\_compacts.htm](http://www.oas.ucf.edu/alc/academic_learning_compacts.htm)