

## Senior Assessment Graduation Requirements

In addition to completing all course and university requirements, candidates for a B.A. or B.S. in Statistics must successfully pass the following two assessments as part of the graduation requirement for candidacy:

1. Student Portfolio
2. Exit Interview

### Statistics Major Portfolio Guidelines

A portfolio that synthesizes the undergraduate experience and provides evidence of expertise in the areas of the major will comprise the Statistics candidate's culminating product of learning. This document will serve as part of the candidate's senior assessment required for graduation.

The portfolio will include three sections:

- Introduction
- Statistical Foundations
- Concentration Area/Application

Candidates should note that the purpose of the Statistics Major Portfolio is to demonstrate expertise in the two major competency areas (Statistical Foundations & Interdisciplinary Concentration).

#### ***The Rationales***

A rationale must be written for each of the two major areas that “make a case” for mastery in that area, outlining (a) the candidate's understanding of that area of expertise, (b) how the major courses have increased the candidate's expertise in that area, and (c) how selected products exemplify the points the candidate is making about the nature of expertise and/or the undergraduate experience. Each rationale should demonstrate deep understanding and serious reflection and should be:

- No more than 3 types double spaced pages in 12-point Times New Roman font.
- Detailed and specific: Candidates should avoid writing broadly about an area and then briefly introducing the products or simply stating that the products show specific expertise and leaving it to the reader to discover how. It is up to the candidate to *explain how*. In essence, as stated above, this is where candidates *make their case* for meeting the program goals.

#### ***The Products/Evidences***

In each of the two main sections, candidates will present **Products** (documents and artifacts) that give evidence of expertise in that area. The products will be of the candidate's own choosing, with guidance from the candidate's advisor or other faculty mentor. The intent is that each portfolio be a personal, distinctive statement of the candidate's achievement.

- There must be a **minimum** of five products in the portfolio beyond the cover letter and resume.
- While many of the documents and artifacts will come from coursework, others may come from consulting, research or internship settings.
- Products may include data analysis projects, essays, power point presentations created for class presentations or any material the course professor deems appropriate during the course.
- Products for the Statistical Foundations section must come from STS courses ONLY, while products for the Concentration Area section should be primarily from non-STS courses with the exception of work from STS 481: Statistics Internship or STS 499: Statistics Research.
- You may use clean copies of any products that were graded as part of a course free of instructor comments and grades. Of course, if you only have the graded copy of the assignment, that may also be acceptable.
- While dates are not required on products, the course in which the product was created MUST be identified by catalog number on the front cover page of the product.
- A product can be used as evidence in more than one section – in fact, that is encouraged – but there should be at least one unique product per section. That is, if product A is used as evidence of Statistical Foundations expertise and again as evidence of Concentration Area expertise, there should be additional pieces of evidence in one or both of those sections.
- The emphasis certainly is *not* on the number of products, but on how well the product provides evidence of expertise in the area in which it is cited and support for the point the writer is making.

The portfolio is intended to provide a thread that ties together coursework and its application. Therefore, candidates should avoid the tendency to consider the portfolio a collection of “best papers” from classes. The emphasis should remain on application, integration, and synthesis throughout.

#### **Portfolio Deadlines:**

Portfolios must be submitted to the Statistics Program Coordinator in hard copy ***and*** electronically no later than:

- **February 15<sup>th</sup>** for students graduating at the end of the **May or Summer** semesters
- **October 1<sup>st</sup>** for students graduating at the end of the **Fall or Winter** semesters
- If the portfolio due date falls on a weekend, the due date moves to the following Monday.

#### **Compilation**

##### **I. Hard Copy**

Portfolios must be compiled into a black or white maximum 1.5-inch clear front view binder with candidate information identified on the front, and side spine. Candidates must use sheet

protectors for their documents—no more than 2 sheets placed back to back in each protector sheet.

The formal presentation for the portfolio should follow the sequence below:

- Cover Page
  - The cover page must be the first page of the portfolio and must include the candidate's name, degree, major, and concentration.
- Signed Honor Code Statement
  - The second page of the portfolio must include the following Honor Code Statement:

**Portfolio Honor Code Statement**

“On my honor, I certify that this portfolio upholds the four values of Elon University -- honesty, integrity, responsibility, respect -- as cited in Elon's Honor Code <<http://www.elon.edu/e-web/students/handbook/honor.xhtml>>.

In assembling this portfolio, I have refrained from lying, cheating, plagiarizing, and facilitating others in these actions.

I understand that any violation of the Honor Code may result in receiving a failing grade on my portfolio. Further, I understand that egregious violations of the Honor Code may result in disciplinary suspension or permanent separation from Elon University.”

- The Honor Code Statement must be signed and dated by the candidate.
- Table of Contents
- Section Divider One with title “Introduction”
  - First entry: cover letter or graduate school personal statement
  - Second entry: resume
- Section Divider Two with title “Statistical Foundations”
  - First entry: Your rationale
  - Other entries: Your products
- Section Divider Three with title “Concentration Area/Application”
  - First entry: Your rationale
  - Other entries: Your products

**II. *Electronic Copy***

In addition to the portfolio binder, an electronic copy of the entire portfolio should also be submitted as one PDF file. Either of the following electronic submissions will be allowed:

- Including a CD containing the PDF inside the front pocket of the portfolio binder.
- Including a flash drive containing the PDF inside the front pocket of the portfolio binder.
- Emailing the Statistics Program Coordinator your PDF.

Because portfolios are to be both personal and distinctive, we do not provide a complete list of required products. Instead, we provide a set of program learning objectives for each section of the portfolio that should serve to guide candidates in product selection and in the writing of their rationales. It is important to note that these program learning objectives represent the indicators of expertise in each section, and they are what the readers of the portfolio will be looking for in their evaluation of rationales and product selections. **If a specific product is required within a section, it is so indicated.**

### **Portfolio Development and Evaluation**

For help on portfolio development, candidates should contact their statistics advisor. There is also a 1-hour co-operative education course, “COE 310: Developing Portfolios” class that is offered in some spring semesters that some candidates may find useful. In some semesters the department may offer “COE 310: Transitions Strategies” which will aid seniors in the Fall semester in developing their portfolios.

Portfolios will be assessed independently by two faculty evaluators from Elon or another university. Candidates will be notified of the results of their portfolio evaluation no later than March 15<sup>th</sup> for May graduation, and November 1<sup>st</sup> for January graduation.

- Candidates must receive a rating of P (pass) on each section from each evaluator including the introduction.
  - If one or more sections receive a rating of F (fail), that section may be resubmitted once. It then will be re-evaluated by the faculty evaluators.
  - Should a section receive a failure on the resubmission, the candidate will not be eligible to graduate.
- If a rewrite is necessary, revised sections must be resubmitted no later than the second Friday after notification. A final decision regarding whether the candidate will be eligible to graduate will be made during the following week.

Though re-evaluations are built into the procedure, candidates should understand that an unsatisfactory rating indicates a serious weakness and their graduation is put on hold until the weakness is remedied.

## Portfolio Scoring Criteria

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Candidate

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Date

Instructions: Rate each section. Add comments to explain and elaborate rating.

P = Satisfactory  
F = Unsatisfactory

- Use the goals and explanatory statements for each of the sections as the basis for your evaluations
- A single product can be used as evidence in more than one section, but there should be at least one unique product per section. That is, if product A is used as evidence of Statistics Area and again as evidence of Concentration Area, there should be additional pieces of evidence in one or both of those sections. The emphasis is not on number of products, but there must be a minimum of five, or one unique product per section.
- Carefully crafted rationales are essential since they guide the reader's interpretation of each section of the portfolio. A poorly written or vague, unfocused rationale should not earn a satisfactory rating regardless of quality of product.
- Candidates must earn a passing rating on each section from each evaluator in order to pass the portfolio requirement.

### Section 1: Introduction

The introduction section must contain:

1. Cover letter. This letter should be addressed to a prospective employer or graduate school depending on the candidate's post-graduation plans, which highlights how the statistics major makes them a strong candidate.
  2. Resume. A detailed resume in support of post-graduation activities is required.
- Entries should show evidence that the candidate can produce materials that are consistent with standard professional format, well-articulated goals and well-developed plans

### Section 2: Statistical Foundations

*Candidates will be able to*

1. *Design sample surveys and/or experiments for standard situations.*
2. *Demonstrate sufficient statistical computing ability to manage data and implement standard statistical methods using at least one standard statistical package.*
3. *Explain statistical ideas, methods and results orally and in writing to non-statistical audiences.*

Rationale - provides a reflective statement regarding the nature of statistics and clear reasoning for including each product as evidence of the candidate's expertise in this area, giving particular emphasis to how expertise has increased as a result of the statistical foundations coursework experience.

- Entries should show evidence that the candidate understands the role of statistics as a science unto itself and the importance of quantitative literacy

Candidate must indicate specifically what portion of the product provides the evidence and how it illustrates the point the candidate is making. For example, if the candidate writes that Product A demonstrates computing ability, the candidate should clearly indicate *where* and *how* ability is demonstrated in the product. Finding the candidate's reference to computing ability is *not* the responsibility of the reader. Candidates should be sure to discuss the relevance, if any, of this area and related experiences to their future plans.

**Required Product: Each candidate is expected to design and carry out an experiment (STS 325: Design and Analysis of Experiments) or administer and analyze a survey (STS 213: Survey Sampling Methods) as a program requirement.**

**Such experiences must result in a final paper that must be included in this section.** Products for the Statistical Foundations section must come from STS courses ONLY

### Section 3: Concentration Area/Application

*Candidates will be able to*

1. *Discuss the problems, methodology, and language of at least one discipline beyond Statistics.*
2. *Discuss the usefulness of statistics as a service field for other disciplines.*
3. Explain statistical ideas, methods and results orally and in writing to non-statistical audiences.

Rationale - provides a reflective statement regarding the nature of content expertise in the concentration area and clear reasoning for including each product as evidence of the candidate's expertise in this area, giving particular emphasis to how expertise has increased as a result of the concentration area experience.

- Entries should show evidence that the candidate can present a disciplinary perspective on issues and problems and can understand trends in their concentration area

Candidate must indicate specifically what portion of the product provides the evidence and how it illustrates the point the candidate is making. For example, if the candidate writes that Product D demonstrates the use of a disciplinary principle (for example, sustainability in the environmental concentration), the candidate should indicate *what* the principle is, and *how* it is used or discussed in the product. Finding the principle and determining how it is used is *not* the responsibility of the reader. Candidates should be sure to discuss the relevance, if any, of this area and related experiences to their future plans.

**Required Product:** Please note that while products from this area may be from STS or non-STS courses, each candidate is expected complete a capstone experience that is related to their concentration area through Seminar, Independent Research/Consulting or Internship. **Such experiences must result in a final written and/or oral product that must be included in the portfolio.**

## Statistics Major Exit Interview Guidelines

An oral exit interview will be administered by at least two Elon faculty during the students' senior year. The purpose of the interview is to judge the candidate's ability to discuss and interpret factual material relating to statistics. Students will be graded on a Pass/Fail scale and will have an opportunity to re-take the interview in the event of failure.

### Interview Format

- Exit interviews will be approximately 30 minutes in length.
- Candidates will be asked to discuss **two** of the products that were included in their submitted portfolio.
- Candidates will be asked to orally explain statistical ideas, methods or results as if speaking to a non-statistical audience (learning outcome #6).
- Students will NOT be informed of the product choices before the interview so should familiarize themselves with all their submitted products.
- At the end of the interview, candidates will be asked to complete a senior student survey in which they rate their confidence in the skills related to the program learning objectives. Student feedback on the major program, teaching effectiveness, advising and offerings will also be sought.

### Interview Deadlines:

Interviews must be scheduled with the Statistics Program Coordinator between:

- March 16<sup>th</sup> and March 30<sup>th</sup> for students graduating at the end of the **May or Summer** semesters
- November 2<sup>nd</sup> and November 16<sup>th</sup> for January graduation for students graduating at the end of the **Fall or Winter** semesters

Candidates will be notified of the results of their interview no later than April 1<sup>st</sup> for May graduation, and November 18<sup>th</sup> for January graduation.