This course, SAS Programming I Fundamentals: Base SAS (C747) covers 5 competencies and represents 4 competency units.

Introduction

Overview
This course prepares the student for the Base Programmer Specialist for SAS 9.4 Certification exam (A00-231). Students will achieve competencies in SAS programming that will allow them to import and export raw data files, manipulate and transform data, combine SAS data sets, identify and correct syntax errors, and write SAS code on the SAS platform.

Getting Started
Welcome to SAS Programming I Fundamentals: Base SAS. This course contains all of the necessary reading materials, interactive learning activities, knowledge checks, and labs you will need to prepare for the certification exam provided by SAS.

For the best understanding of the course content, complete each module assigned. To help you track your progress, you are encouraged to follow the pacing guide identified at the beginning of the course. In addition, course instructors are available to answer any questions you have and to discuss the concepts of SAS Programming. Your competence will be demonstrated by the successful completion of the objective assessment certification exam provided by SAS.

Competencies
This course provides guidance to help you demonstrate the following 5 competencies:

- **Competency 4035.1.1: Data Acquisition**
  The graduate inputs data files into SAS.

- **Competency 4035.1.2: Data Transformation**
  The graduate creates clean, standardized data sets.

- **Competency 4035.1.3: Data Manipulation**
  The graduate performs a variety of data step operations to manage data sets for analysis.

- **Competency 4035.1.4: Reporting**
  The graduate creates outputs in SAS-supported formats.

- **Competency 4035.1.5: Handling Errors**
  The graduate resolves programming and data errors.

Learning Objectives
This course’s learning objectives can be found within each learning resource, addressed within each lesson or unit as appropriate.

Course Instructor Assistance
As you prepare to demonstrate competency in this subject, remember that course instructors stand
ready to help you reach your educational goals. As subject matter experts, instructors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course instructors are excited to hear from you and eager to work with you.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you apply the content you are studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. Even if things do not work out on your first try, course instructors act as a support system to help you prepare for another attempt. You should expect to work with course instructors for the duration of your coursework, and you are encouraged to contact them as soon as you begin. Course instructors are fully committed to your success!

Preparing for Success

The information in this section is provided to detail the resources available for you to use as you complete this course.

You will want to complete all labs in the provided sandbox, or in your own SAS environment.

Be aware that Lab Environment questions contain 8-10 programming projects with 20-25 short-answer questions, based on those projects. Each question in this section is worth 2-3 points. There are an additional 15-20 questions that do not require the lab environment.

Watch the video "Performance-Based Base Programming Exam Tutorial."

Learning Resources

The learning resources listed in this section are required to complete the activities in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

SAS eLearning

The SAS eLearning resource is an online course complete with readings, videos, and interactive exercises. Targeted feedback and self-assessment tools, along with real-world activities, will help you assess your strengths as well as those areas that may require you to spend some additional time learning. In order to access the SAS eLearning resources for this course, you must first create an account or profile and redeem the appropriate access code by following the instructions outlined in the next section.

- SAS Programming 1: Essentials
- SAS Programming 2: Data Manipulation Techniques
Additionally, a supplemental ebook is provided for this course:


**Create an SAS Account or Profile**

To access the two SAS eLearning resources mentioned above, create an SAS account by following these step-by-step instructions. Once you have created your account, you will be required to redeem your access code.

1. Open a browser and go to support.sas.com/myelearn.
2. Click on the "Create Profile" button.
3. Fill in all the required fields for your profile. (Note: It is recommended that you use your WGU email for this account. Leave the "Affiliation With SAS" field blank.)
4. Check the box labeled "I agree to the terms of use and conditions."
5. Click "Create profile." You will receive an email from SAS Education within a few minutes. (You may need to check your spam folder.)
6. Click the link labeled "Activate my SAS Profile" from within the email you received.
7. Create a password for your account by entering it in the "Password" and "Confirm password" fields. (Note: You will want to document this password as you will need it to access your account in the future.)
8. Click on the "Set password" button.
9. Click "Continue."

To redeem your access code, follow the step-by-step instructions below.

1. Open a browser and go to support.sas.com/myelearn.
2. Log in to the account you created in the first section of these instructions.
3. On the "My Training" page, locate the "To Activate a New Product" box on the right side of the screen.
4. For *SAS Programming 1: Essentials*, enter activation code **G70206563**.
5. Click "Submit."
6. On the page that follows, check the box labeled "Yes, I accept the license agreement."
7. Click "Submit." You should now see your materials accessible on the next page.
8. Click into your account to access your course work and check your browser compatibility.
9. When you are ready, click "Start Course" to begin.
10. Repeat steps one through nine to activate *SAS Programming 2: Data Manipulation Techniques* using activation code **G70206812** in step 4.

If you have any issues with this process, call SAS Education customer service at 1(800) 333-7660, or email elearn@sas.com with questions. Good luck with your studies!

**Practice Labs Sandbox**
Use of the Practice Labs Sandbox will take you directly to the MSDA Program lab environment. Access the sandbox to begin.

Practice Exams

Verify your readiness for the certification exam by completing a practice exam. These can be accessed by clicking the links below:

- uCertify Practice Exam

Supplemental eBook

The following supplemental eBook is available for additional reading, review and studying.


Pacing Guide

The pacing guide suggests a weekly structure to pace your completion of learning activities. It is provided as a suggestion and does not represent a mandatory schedule. Follow the schedule to complete the course in the suggested timeframe.

- Week 1
  - SAS Programming 1: Essentials
    - Course Overview and Data Setup
    - Lesson 1: Essentials
- Week 2
  - SAS Programming 1: Essentials
    - Lesson 2: Accessing Data
    - Lesson 3: Exploring and Validating Data
- Week 3
  - SAS Programming 1: Essentials
    - Lesson 4: Preparing Data
    - Lesson 5: Analyzing and Reporting Data
- Week 4
  - SAS Programming 1: Essentials
    - Lesson 6: Exporting Results
    - Lesson 7: Using SQL in SAS
- Week 5
  - SAS Programming 2: Data Manipulation Techniques
    - Lesson 1: Controlling Input and Output
    - Lesson 2: Summarizing Data
- Week 6
• SAS Programming 2: Data Manipulation Techniques
  • Lesson 3: Manipulating data with Functions
  • Lesson 4: Creating and Using Custom Formats

• Week 7
  • SAS Programming 2: Data Manipulation Techniques
    • Lesson 5: Combining Tables
    • Lesson 6: Processing Repetitive Code

• Week 8
  • SAS Programming 2: Data Manipulation Techniques
    • Lesson 7: Restructuring Tables

Final Steps

Congratulations on completing the activities in this course! This course has prepared you to complete the associated certification assessment. If you have not already been directed to complete the assessment, schedule and complete your assessment now.

Certification Exam

Completion of this course prepares you to attempt the Base Programmer for SAS 9.4 Certification exam (A00-231) provided by SAS.

Once you feel confident with all of the concepts presented in the course, you are ready to refer for the first attempt of the certification exam. When you take the certification exam, you need to submit your score to scores@wgu.edu regardless of the outcome. If you are unsuccessful in your first attempt, you will need to contact the course instructor to discuss how to prepare for the next attempt. Once the course instructor evaluates your progress and scores and discusses your readiness, you will be approved to receive the voucher for your next attempt of the certification exam.