

A Review of "Free" Massive Open Online Content (MOOC) for SAS® Learners

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Abstract

Leading online providers are now offering SAS® users with “free” access to content for learning how to use and program in SAS. This content is available to anyone in the form of massive open online content (or courses) (MOOC). Not only is all the content offered for “free”, but it is designed with the distance learner in mind, empowering users to learn using a flexible and self-directed approach. As noted on Wikipedia.org, “A MOOC is an online course, content, or other resource aimed at unlimited participation and made available in an open access forum using the web.” This presentation illustrates how anyone can access a wealth of learning technologies including comprehensive student notes, instructor lesson plans, hands-on exercises, PowerPoints, audio, webinars, and videos.

Introduction

The age of massive open online content (and courses), often referred to as MOOC, is not only a reality, it is gaining huge popularity among students and professionals. With education costs on the rise, and in many cases increasing out of control, several higher education institutions and organizations are challenging the current education financial model by offering MOOCs for students, professionals and others to choose from. Higher education Universities such as, Princeton University, Stanford University, Harvard University, Massachusetts Institute of Technology (MIT), University of Pennsylvania, Duke University, University of Michigan, and organizations in the private sector such as, SAS Institute Inc., Coursera, and a number of other organizations and universities around the world are now offering online courses and certificate programs. A number of public, private, and online universities are now offering degree programs that can be completed exclusively online as well.

What is a Massive Open Online Course/Content (MOOC)?

As technology continues to reach for newer and greater horizons, it is becoming increasingly more important for students, professionals, and those with a curiosity to acquire knowledge to have avenues to continue their quest for learning. Many forward-thinking organizations, universities and degree-granting institutions use the advances that technology provides to help make some of their courses available to the masses around the world. A MOOC offers learners everywhere with an alternative to mainstream courses, degrees, and certificate programs that were once only available through brick-and-mortar classrooms where attendees were forced to commute to supported locations or become a resident on college campuses.

A MOOC allows courses and content to be freely taught by the best and brightest in open- and online learning environments to massive audiences. By delivering education in a MOOC format, anyone with a computer (workstation, laptop or “smart” device), an Internet connection and a web browser, can select or enroll in one of the many “free” courses currently being offered, learn from “real-time” or recorded lessons from the comfort of their living rooms, bedrooms, dorms, offices, beach houses, or anywhere else they are in the world. Needless to say, the availability of “free” resources along with the flexibility they offer has fostered a high degree of excitement, enthusiasm and an ever-growing audience for the MOOC format.

How is a MOOC Structured?

A MOOC is structured very similar to an online course. A MOOCs structure typically consists of a course title, abstract or description of its content, a syllabus, expected learning objectives, “live” or recorded lectures or lessons, reading assignments, hands-on assignments, and quizzes. Students tune in to the “live” or recorded lectures, perform the required reading and hands-on assignments, and take the quizzes, adhering to the required scheduled timeline. At the completion of a MOOC, students receive a grade from the MOOC leader or instructor, just as if they had enrolled in a traditional course.

A Review of “Free” MOOC Resources

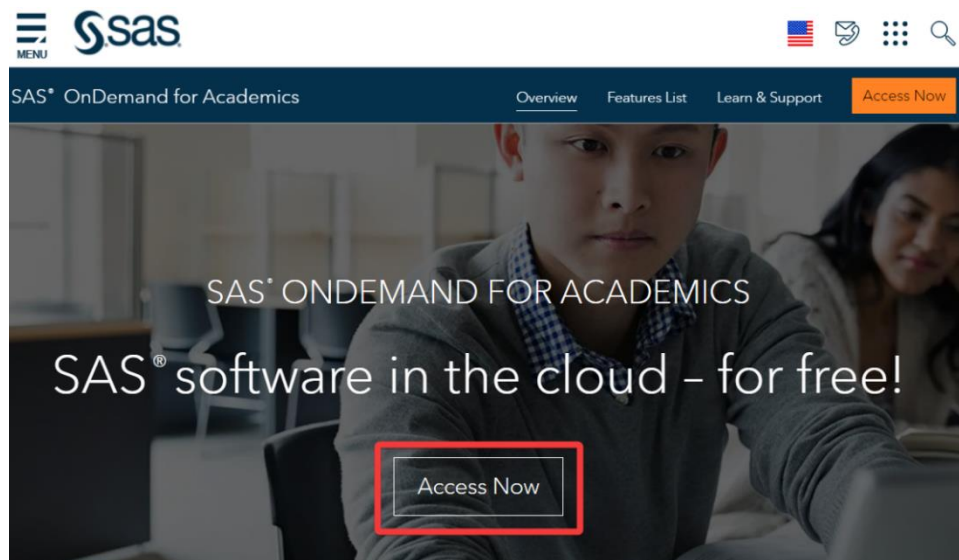
As the age of massive open online content (and courses) is upon us, the world of the SAS user is also being positively impacted with many “free” MOOC resources. Numerous MOOC courses and content are now available to help support SAS users in their quest to effectively improve their analytical, programming, statistical, and reporting skills. For content and courses that may contain a sizeable amount of material, some MOOC offerings may involve splitting larger and more involved topics into smaller, more digestible, pieces, a process known as specializing. So, where can SAS users find “free” MOOC resources? The following list of “free” MOOC resources is available to SAS users everywhere.

“Free” MOOC Resources for SAS Users

- 1) SAS® On-Demand for Academics software
- 2) Online SAS documentation in PDF and HTML format on support.sas.com
- 3) SAS Proceedings “White” papers on [LexJansen.com](https://www.lexjansen.com)
- 4) SAS YouTube Channel Videos

SAS® On-Demand for Academics Software

The SAS® On-Demand for Academics software is “free” to anyone. Available for PC, Mac, or Linux Workstations, the SAS On-Demand for Academics software includes SAS® Studio, Base SAS®, SAS/STAT®, SAS/IML®, SAS/ACCESS® for Windows, SAS/ETS, SAS/OR, SAS/QC, and other SAS-provided products.



Base SAS Features

The Base SAS software contains a built in DATA step programming language, the ability to access a wide-range of data sources, comprehensive set of functions to handle data manipulation, an assortment of “canned” and ready-to-use procedures, a comprehensive SQL language, reporting and customization feature for reports and results using Output Delivery System (ODS), data display informats and output formats, comprehensive data visualization features known as ODS Statistical Graphics, data management capabilities, and much more.

SAS/STAT® Features

The SAS/STAT software supports the application of the latest statistical techniques. It supports the following statistical routines: Analysis of Variance, Bayesian Analysis, Categorical Data Analysis, Cluster Analysis, Mixed Models, Multivariate Analysis, Nonparametric Analysis, Regression Analysis, Survey Sampling and Analysis, Statistical Graphics, and much more.

SAS/IML® Features

The SAS/IML software is an interactive matrix programming language and supports the ability to conduct Exploratory Analysis, the integration with the R programming language, dynamically linked graphics, and much more.

SAS/ACCESS® Features

The SAS/ACCESS software supports the ability to read, write, and update data sources; provides a flexible query language; supports the access to a variety of data sources including text files, dat files, CSV files, Excel spreadsheets, Microsoft SQL Server, and ODBC; and much more.

SAS Studio

The SAS Studio software serves as the user interface; supports Web applications; the access to data files, libraries and programs; the ability to recover files; dynamically link graphics; and much more.

SAS' Technical Support Website

SAS' technical support website, support.sas.com, contains a wealth of “free” SAS technical support content. Users are provided with access to timely information pertaining to: Admin, Programmer, Statistician and User content; the “best” in class comprehensive technical support content; training and books; what’s happenings including User Group Information; access to “free” webinars and podcasts; access to code samples; access to SAS comprehensive documentation; and much more. The support.sas.com user interface is illustrated in Figure 2, below.

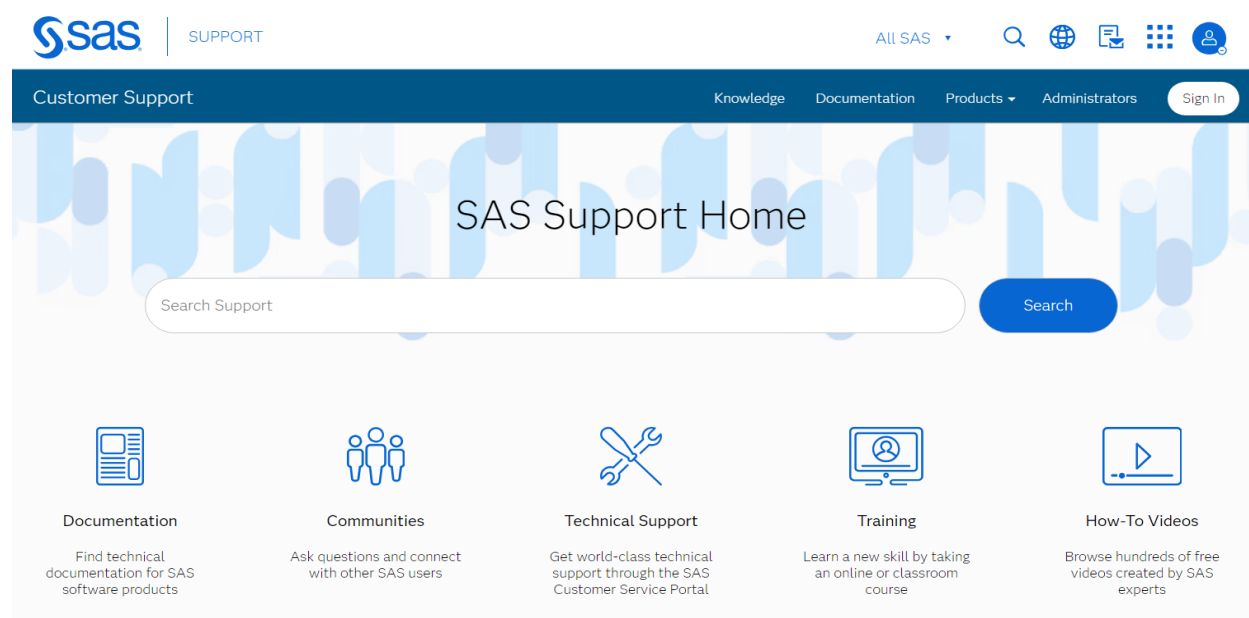


Figure 2. support.sas.com Home

Knowledge Base – SAS Products and Solutions

Users can easily explore the Knowledge Base of SAS Products and Solutions, System Requirements, Install Center, Third-Party Software Reference, Documentation, Papers, Samples & SAS Notes, and Focus Areas by accessing <http://support.sas.com/software/>, illustrated in Figure 3, below.

KNOWLEDGE BASE / SAS PRODUCTS & SOLUTIONS

KNOWLEDGE BASE

- **Products & Solutions**
 - ↳ SAS 9.4
 - ↳ SAS 9.3
 - ↳ SAS 9.2
 - ↳ Maintenance & Product Upgrades
- System Requirements
- Install Center
- Third-Party Software Reference
- Documentation
- Papers
- Samples & SAS Notes
- Focus Areas

SAS® Products and Solutions

SAS® 9.4

The second maintenance release for SAS 9.4, which includes the Analytical Products 13.2, is the most recent release of SAS software. SAS 9.4 TS1M2 (9.4M2) is available to customers starting in August 2014. It delivers a more highly available and resilient platform for deploying SAS in traditional on-site environments along with additional support for private and public cloud deployments.

➤ [Read more about SAS 9.4 and the Analytical Products](#)

SAS Product Listing: Index A-Z

The product listing offers a one-stop shop for documentation, samples, training and news provided by product.

A B C D E F G H I J L M O Q R S T U V W

A

SAS/ACCESS
 SAS Activity-Based Management
 SAS Add-In for Microsoft Office
 SAS Anti-Money Laundering
 SAS/AF
 SAS Analytics Pro
 SAS AppDev Studio

↑ [Back to Top](#)

B

Base SAS

Figure 3. Knowledge Base – SAS Products and Solutions

Knowledge Base – Documentation

Users have the ability to access a comprehensive set of SAS product documentation in either HTML or PDF format and can be accessed at <http://support.sas.com/documentation/index.html>, as shown in Figure 4, below.

SAS THE POWER TO KNOW.
 Providing software solutions since 1976

[support.sas.com](#) **Knowledge Base** Support Training & Books Happenings Store Support Communities

KNOWLEDGE BASE / DOCUMENTATION

KNOWLEDGE BASE

- Products & Solutions
- System Requirements
- Install Center
- Third-Party Software Reference
- **Documentation**
 - ↳ What's New in SAS
 - ↳ Product Index A-Z
 - ↳ SAS Analytical Products 13.2
 - ↳ SAS Analytical Products 13.1
 - ↳ SAS 9.4
 - ↳ SAS Analytical Products 12.1
 - ↳ SAS 9.3
 - ↳ SAS 9.2
 - ↳ Earlier SAS Releases
- Papers
- Samples & SAS Notes
- Focus Areas

SAS Product Documentation

Starting Points

- [Product Index A-Z](#)
- [Programmer's Bookshelf](#)
- [What's New in SAS](#)
- [Documentation by Title](#)

Syntax Shortcuts

- [Syntax Lookup](#) 9.4 | 9.3
- [SAS Procedures by Name and Product](#) 9.4 | 9.3 | 9.2
- [SAS Language Elements by Name, Product, and Category](#) 9.4 | 9.3 | 9.2

Search Enter search term

Release All SAS releases (9.2 and later)

Product All Products

Display ☒ All topics ☐ Examples only ☐ Syntax only

Submit

Figure 4. Knowledge Base – SAS Product Documentation

Published SAS Proceedings and “White” Papers

Users are provided access to more than 38K “free” published SAS “white” papers all in the form of PDF documents. Provided with a built-in Google® search applet, users are able to search for content from 1976 to the present from SGF / SUGI, SUEGI, the various Regional conferences, PharmaSUG / PharmaSUG China, PhUSE, CDISC Forum, and other venues. Papers can be accessed using the <http://www.lexjansen.com/> user interface, as shown in Figure 5, below.

Conference Proceedings (1976 - present) ... and more

This searches **38039** conference papers from SAS Global Forum, SUGI, PharmaSUG, PHUSE, NESUG, SESUG, WUSS, MWSUG, PNWSUG, SCSUG, SEUGI, ...

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Perform a [search](#) for papers based on title, author or keywords.

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4236 PharmaSUG papers (1997-2024) PharmaSUG 2024 May 19-22 - Baltimore, MD	368 PHUSE/FDA CSS posters (2012-2024) PHUSE CSS 2024 June 3-5 - Silver Spring, MD	578 PharmaSUG China papers (2012-2023) PharmaSUG China 2024 August 2-3 - Beijing, China
3008 WUSS papers (1993-2023) WUSS 2024 September 4-6 - Sacramento, CA	3301 SESUG papers (1993-2023) SESUG 2024 September 22-24 - Bethesda, MD	2561 PHUSE EU Connect papers (2005-2023) PHUSE EU Connect 2024 November 11-13 - Strasbourg, France
2111 MWSUG papers (1990-2019) MWSUG 2024 November 14-19 - Waukesha, WI	1203 PHUSE US Connect papers (2018-2024) PHUSE US Connect 2025 March 16-19 - Orlando, FL	279 RPharma presentations (2018-2023) RPharma 2023 October 24-26 - Virtual
183 SAS Explore presentations (2022-2023) SAS Explore 2023 September 11-14 - Las Vegas, NV	12850 SUGI / SAS Global Forum papers (1976-2021)	2395 CDISC related papers and posters (2001-2023)
286 PNWSUG papers (1996-2009)	1402 SCSUG papers (1991-2019)	3123 NESUG papers (1988-2013)
	115 VIEWS papers (2001-2004)	2435 SEUGI papers (1983-2003)

Figure 5. Published SAS Proceedings on lexjansen.com

LexJansen.com – Search Feature

LexJansen.com provides a built-in Google search applet that can be used by users to find papers of interest, as shown in Figure 6, below.

Conference Proceedings (1976 - present) ... and more

This searches **38039** conference papers from SAS Global Forum, SUGI, PharmaSUG, PHUSE, NESUG, SESUG, WUSS, MWSUG, PNWSUG, SCSUG, SEUGI, ...

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286 PNWSUG papers (1996-2009)	1402 SCSUG papers (1991-2019)	3123 NESUG papers (1988-2013)
	115 VIEWS papers (2001-2004)	2435 SEUGI papers (1983-2003)

Figure 6. Built-in Google Search Applet in LexJansen.com

LexJansen.com – Search Results

LexJansen.com's search results display the most relevant results first, based on the search keyword or phrase entered in the search box, as illustrated in Figure 7, below.

The screenshot shows the LexJansen.com search interface. On the left is a sidebar with navigation links: Home, Contact, SAS Paper Search, and a list of SAS conferences (SAS:MWSUG papers, SAS:NESUG papers, R/R/Pharma presentations, SAS:PharmaSUG papers, SAS:PharmaSUG China papers, SAS:PHUSE EU papers, SAS:PHUSE US papers, FDA/PHUSE CSS posters, SAS:PNWSUG papers, SAS:SCSUG papers, SAS:SESUG papers, SAS:SEUGI papers, SAS:SASGFSUGI papers, SAS:SAS Explore presentations, SAS:VIEWS papers, SAS:WUSS papers, SAS:CDISC papers). The main content area shows search results for the query 'proc sql Laffer'. The search bar indicates 'About 1,330 results (0.28 seconds)'. The results list includes:

- 127-29: Efficiency Techniques for Beginning PROC SQL Users** (support.sas.com › papers › proceedings › proceedings › sugi29). File Format: PDF/Adobe Acrobat. Laffer, Kirk Paul (2003). "Undocumented and Hard-to-find PROC SQL Features". Proceedings of the Eleventh Annual, Western Users of SAS Software (WUSS) Conference ...
- Exploring the Undocumented PROC SQL METHOD Option - Kirk ...** (support.sas.com › resources › papers › proceedings09). File Format: PDF/Adobe Acrobat. Laffer, Kirk Paul (2006). "A Hands-on Tour Inside the World of PROC SQL." Proceedings of the 31st Annual SAS: Users Group International Conference, Software ...
- 251-2012: Exploring DATA Step Merges and PROC SQL Joins** (support.sas.com › resources › papers › proceedings12). File Format: PDF/Adobe Acrobat. Laffer, Kirk Paul and Ben Cochran (2007). "A Hands-on Tour Inside the World of PROC SQL Features." Proceedings of the SAS Global Forum (SGF) 2007 Conference, ...
- Removing Duplicates Using SAS®** (support.sas.com › resources › papers › proceedings17). File Format: PDF/Adobe Acrobat. Laffer, Kirk Paul (2016). "Removing Duplicates Using SAS®". Proceedings of ... 2014) and PROC SQL: Beyond the Basics Using SAS, Second Edition (SAS Press).
- Exploring DATA Step Merges and PROC SQL Joins** (support.sas.com › resources › papers › proceedings14). File Format: PDF/Adobe Acrobat. Laffer, Kirk Paul (2010). "DATA Step and PROC SQL Programming Techniques." Ohio SAS Users Group (OSUG) 2010 One-Day, Conference, Software Intelligence ...
- 200-2013: Exploring the PROC SQL METHOD Option** (support.sas.com › resources › papers › proceedings13). File Format: PDF/Adobe Acrobat. Laffer, Kirk Paul (2009). "Exploring DICTIONARY Tables and SASHELP Views." Proceedings of the 2009 PharmaSUG SAS Users, Group Conference, Software Intelligence ...
- 114-31: A Hands-On Tour Inside the World of PROC SQL** (support.sas.com › papers › proceedings › proceedings › sugi31). File Format: PDF/Adobe Acrobat. Laffer, Kirk Paul (2003). "Undocumented and Hard-to-find PROC SQL Features." Proceedings of the Eleventh Annual, Western Users of SAS Software Conference ...
- 070-30: Exploring DICTIONARY Tables and Views** (support.sas.com › papers › proceedings › proceedings › sugi30). File Format: PDF/Adobe Acrobat. Laffer, Kirk Paul (2003). "Undocumented and Hard-to-find PROC SQL Features." Proceedings of the Eleventh Annual, Western Users of SAS Software Conference ...

Figure 7. LexJansen.com Search Results

Viewing a Paper from LexJansen.com

Any paper of interest that is found with the built-in Google search applet and/or displayed in the search results can be viewed, saved, or printed as needed. A "sample" paper from LexJansen.com is shown in Figure 8, below.

The screenshot displays the title page and abstract of a paper titled "Advanced Programming Techniques with PROC SQL" by Kirk Paul Laffer, Software Intelligence Corporation, Spring Valley, California. The paper is identified as Paper 930-2017.

Abstract

The SQL Procedure contains a number of powerful and elegant language features for SQL users. This hands-on workshop (HOW) emphasizes highly valuable and widely usable advanced programming techniques that will help users of Base-SAS® harness the power of the SQL procedure. Topics include using PROC SQL to identify FIRST.row, LAST.row and Between.rows in BY-group processing; constructing and searching the contents of a value-list macro variable for a specific value; data validation operations using various integrity constraints; data summary operations to process down rows and across columns; and using the MSGLEVEL= system option and _METHOD SQL option to capture vital processing and the algorithm selected and used by the optimizer when processing a query.

Introduction

The SQL procedure is a wonderful tool for querying and subsetting data; restructuring data by constructing case expressions; constructing and using virtual tables known as a view; access information from Dictionary tables; and joining two or more tables to explore data relationships. Occasionally, an application problem comes along where the SQL procedure is either better suited or easier to use than other more conventional DATA and/or PROC step methods. As each situation presents itself, PROC SQL should be examined to see if its use is warranted for the task at hand.

Example Tables

The examples used throughout this paper utilize a database of two tables. (A relational database is a collection of tables.) The data used in all the examples in this paper consists of a selection of movies that I've viewed over the years. The Movies table consists of six columns: title, length, category, year, studio, and rating. Title, category, studio, and rating are defined as character columns with length and year being defined as numeric columns. The data stored in the Movies table is depicted below.

Figure 8. A "Sample" Paper from LexJansen.com

SAS YouTube Channel Videos

The SAS YouTube Channel Videos are available to all users and can be accessed at, <http://www.youtube.com/>. With more than 2,400 videos, the available video include: Analytics 2014, Featured SAS Customer Stories, SAS Customer Stories, SAS Visual Analytics, SAS Customer Intelligence, SAS Data Management, SAS High-Performance Analytics, Popular Uploads, and Created Playlists. The SAS YouTube Channel also provides access to various featured SAS channels, as shown in Figure 9, below.

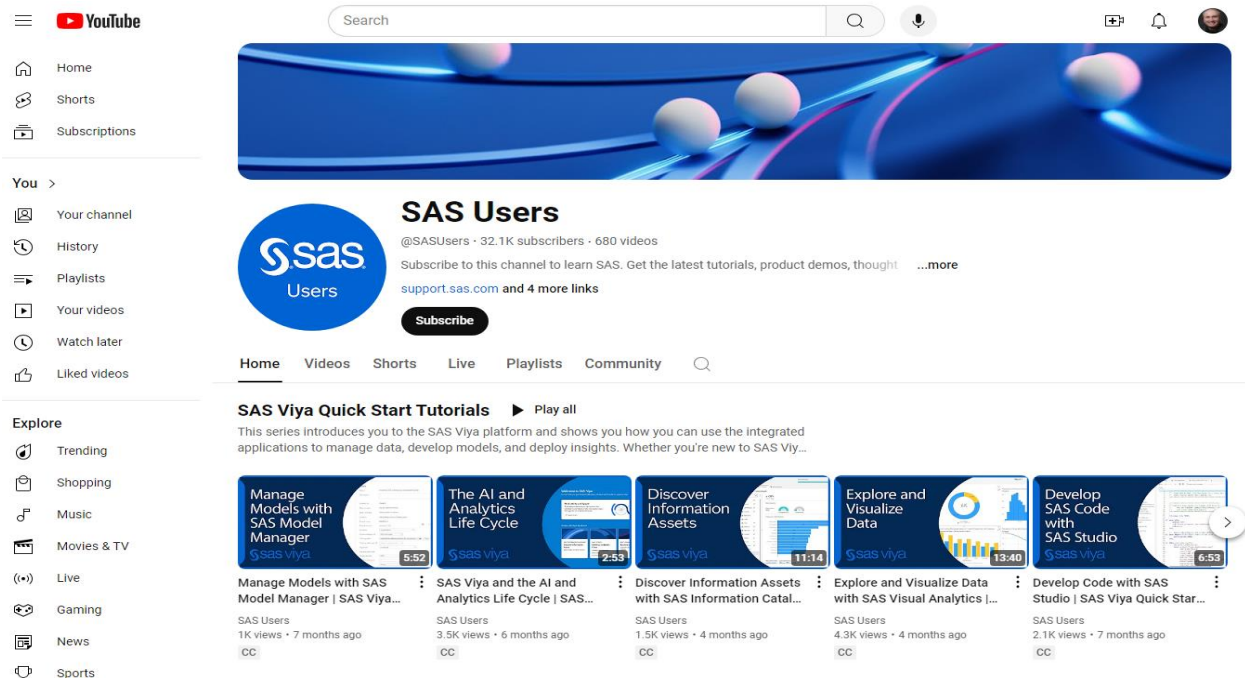
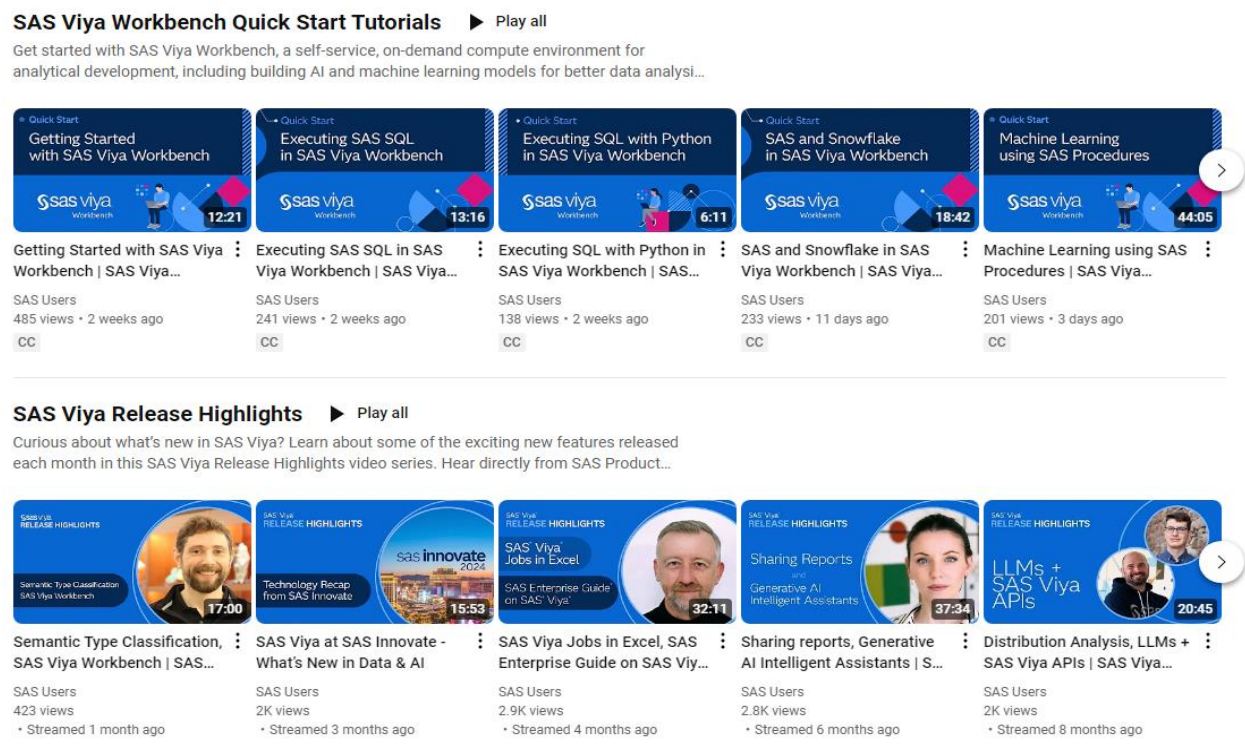


Figure 9. Featured SAS Channels

The SAS YouTube Channel supports a number of channels, as shown in Figure 10, below.



SAS How To Tutorials ▶ Play all

Free SAS How to Tutorials are designed to teach you the basics of SAS programming and analytics. These videos from SAS instructors cover individual tasks to help you learn real-world skills at your...

 <p>Introduction to Model Studio for SAS Enterprise Miner Users with Jeff 17:12</p>	 <p>Custom Tasks vs. Custom Steps with Danny 4:58</p>	 <p>Customizing Reports Using Containers with Greg 14:01</p>	 <p>FEATURE SELECTION USING GRAPHICAL LASSO with Sharad 20:27</p>	 <p>Getting Started with Mapping with Greg 13:15</p>
SAS Tutorial Introduction to Model Studio for SAS...	SAS Tutorial Custom Tasks vs. Custom Steps in SAS...	SAS Tutorial Customizing Reports Using Containers in...	SAS Tutorial Feature Selection Using Graphical...	SAS Tutorial Getting Started with Mapping in SAS Visual...
SAS Users 1K views • 2 months ago	SAS Users 869 views • 3 months ago	SAS Users 2.8K views • 9 months ago	SAS Users 1.7K views • 11 months ago	SAS Users 4K views • 1 year ago
CC				

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The Internet of Things (IoT) is a growing network of everyday objects – from industrial machines to consumer goods to vehicles – that can share information and complete tasks while you are busy with...

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SAS Data Management

SAS Data Management helps you analyze, improve and control data in one platform. The result? Better data governance. More collaboration between business and IT. And more consistent metadata and...

 <p>SAS Data Management Demo: Manage Your Data Beyond... SAS Software 4,346 views • 1 year ago</p>	 <p>Data Integration: A Strategy for the Future SAS Software 1,417 views • 1 year ago</p>	 <p>Data Preparation for Analytics in the Age of Big Data SAS Software 1,415 views • 1 year ago</p>	 <p>60-Second Scoop on SAS Data Loader for Hadoop SAS Software 2,253 views • 2 years ago</p>
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 <p>MACHINE LEARNING MAGIC TRICKS with Cat 11:07</p>	 <p>ANALYSIS OF MEANS with Cat 7:47</p>	 <p>PARETO ANALYSIS with Cat 8:31</p>	 <p>CONTROL CHARTS FOR RARE EVENTS with Cat 9:55</p>	 <p>SHEWHART CONTROL CHARTS with Cat 15:03</p>
SAS Tutorial Machine Learning Magic Tricks Usin...	SAS Tutorial What is ANOM (analysis of means)?	SAS Tutorial What is Pareto Analysis?	SAS Tutorial What are control charts for rare event...	SAS Tutorial What are Shewhart Control Charts?
SAS Users 3.2K views • 3 years ago	SAS Users 3.1K views • 4 years ago	SAS Users 1.9K views • 4 years ago	SAS Users 1.7K views • 4 years ago	SAS Users 9.1K views • 4 years ago
CC		CC	CC	CC

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In this six-part series, SAS technical trainer Luna Bozeman guides you through the process of accessing US census data and exploring it using SAS Studio. You'll learn to import, visualize,...


				
Introduction to Analyzing Census Data in SAS Studio ... SAS Users 3.3K views • 3 years ago CC	Access Census Data Video 2 of 6 SAS Users 1.5K views • 3 years ago CC	Import Census Data Into SAS Studio Video 3 of 6 SAS Users 1.3K views • 3 years ago CC	Visualize Census Data in SAS Studio Video 4 of 6 SAS Users 1.2K views • 3 years ago CC	Prepare Census Data in SAS Studio Video 5 of 6 SAS Users 748 views • 3 years ago CC

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Get Started with SAS for Advanced Analytics

			
Getting Started with Machine Learning SAS Users · Playlist View full playlist	Getting Started with Deep Learning SAS Users · Playlist View full playlist	Getting Started with Data Mining SAS Users · Playlist View full playlist	Getting Started with Internet of Things (IoT) SAS Users · Playlist View full playlist


















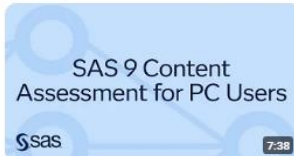








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Machine Learning using SAS Procedures sas viya Workbench 44:05 Machine Learning using SAS Procedures SAS Viya Workbench Quick Start Tutorial 201 views · 3 days ago	Machine Learning using the sasviya.ml Python Package sas viya Workbench 27:28 Machine Learning using the sasviya.ml Python Package SAS Viya Workbench... 82 views · 3 days ago	SAS and Snowflake in SAS Viya Workbench sas viya Workbench 18:42 SAS and Snowflake in SAS Viya Workbench SAS Viya Workbench Quick Start Tutorial 233 views · 11 days ago	Executing SQL with Python in SAS Viya Workbench sas viya Workbench 6:11 Executing SQL with Python in SAS Viya Workbench SAS Viya Workbench Quick... 138 views · 2 weeks ago
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Introduction to Model Studio for SAS Enterprise Miner Users with Jeff 17:12 SAS Tutorial Introduction to Model Studio for SAS Enterprise Miner Users 1K views · 2 months ago	SAS VS Code Extension Version Update 1.7 & 1.8 sas 4:13 SAS VS Code Extension Version Update 1.7 & 1.8 286 views · 3 months ago	SAS VS Code Extension Version Update 1.6 sas 5:09 SAS VS Code Extension Version Update 1.6 177 views · 3 months ago	Custom Tasks vs. Custom Steps with Danny 4:58 SAS Tutorial Custom Tasks vs. Custom Steps in SAS Studio 869 views · 3 months ago
Create Custom Steps with SAS Studio sas viya 15:46 Create Custom Steps with SAS Studio SAS Viya Quick Start Tutorial 981 views · 4 months ago	Discover Information Assets sas viya 11:14 Discover Information Assets with SAS Information Catalog SAS Viya Quick Start... 1.5K views · 4 months ago	Explore and Visualize Data sas viya 13:40 Explore and Visualize Data with SAS Visual Analytics SAS Viya Quick Start Tutorial 4.3K views · 4 months ago	Configuring Drill-down List Tables sas 14:10 SAS Demo Configuring Drill-down List Tables in SAS Visual Analytics 506 views · 5 months ago
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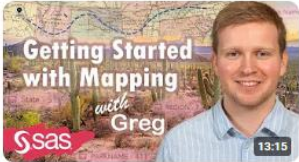










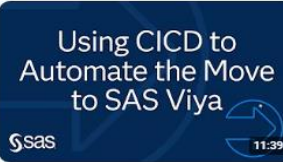












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 <p>SAS Content Assessment Overview</p> <p>SAS Demo SAS Content Assessment Overview</p> <p>2.1K views • 1 year ago</p>	 <p>SAS INTEGRATION WITH MICROSOFT OUTLOOK with Sasha</p> <p>SAS Tutorial SAS Integration with Microsoft Outlook</p> <p>2.5K views • 1 year ago</p>	 <p>MASTERING THE WHERE CLAUSE IN PROC SQL with Charu</p> <p>SAS Tutorial Mastering the WHERE Clause in PROC SQL</p> <p>4K views • 1 year ago</p>	 <p>Display an Organization Chart</p> <p>SAS Demo Display an Organization Chart in a Visual Analytics Report</p> <p>733 views • 1 year ago</p>
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 <p>WIDE TO NARROW TRANSPOSE with Kristin</p> <p>SAS Tutorial Wide to Narrow Transpose in SAS</p> <p>2K views • 1 year ago</p>	 <p>BREAKOUT SESSION 2022 An Overview of SAS API Use Cases on GitHub</p> <p>Time to REST: An Overview of SAS API Use Cases on GitHub</p> <p>2.2K views • 1 year ago</p>	 <p>BREAKOUT SESSION 2022 Analytics Innovation in AML</p> <p>Analytics Innovation in AML</p> <p>1.6K views • 1 year ago</p>	 <p>BREAKOUT SESSION 2022 Managing Data Processing Using Metadata</p> <p>Managing Data Processing for CDC Surveillance Projects Using Metadata</p> <p>291 views • 1 year ago</p>

Figure 10. SAS Software YouTube Channels (continued)

Conclusion

As technology reaches for newer and greater horizons, many forward-thinking organizations, universities and degree-granting institutions are making some of their courses available to the masses around the world. The MOOC format allows courses and content to be freely taught by the best and brightest in open- and online learning environments to massive audiences. By delivering education in a MOOC format, anyone with a computer (workstation, laptop or “smart” device), an Internet connection and a web browser, can select or enroll in one of the many “free” courses currently being offered, learn from “real-time” or recorded lessons from the comfort of their living rooms, bedrooms, dorms, offices, beach houses, or anywhere else they are in the world. Needless to say, the availability of “free” resources along with the flexibility they offer has fostered a high degree of excitement, enthusiasm and an ever-growing audience for the MOOC format.

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About the Author

Kirk Paul Lafler is a data scientist, consultant, developer, programmer, and educator; and teaches SAS Programming and Data Management in the Statistics Department at San Diego State University. Kirk also provides project-based consulting, programming, and training services to client organizations in a variety of industries including healthcare, life sciences, credit card processing, technology, energy, research, and business; and teaches “virtual” and “live” SAS, SQL, Python, Database Management Systems (DBMS) technologies, AWS, Excel, R, and cloud-based technologies and software. Currently, Kirk serves as the Western Users of SAS Software (WUSS) Executive Committee (EC) Open-Source Advocate and Coordinator and is actively involved with several proprietary and open-source software user groups and conference committees. As the author of several books including the popular [PROC SQL: Beyond the Basics Using SAS, Third Edition \(SAS Press. 2019\)](#), Kirk is an Invited speaker, educator, keynote, and mentor, and is the recipient of 29 “Best” contributed paper, hands-on workshop (HOW), and poster awards.

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