

COURSE TITLE: S.T.E.M. Adobe Express: Basics & Beyond

WA CLOCK HRS: 50

NO. OF CREDITS: 5 QUARTER CREDITS
[semester equivalent = 3.33 credits]

OREGON PDUs: 50

PENNSYLVANIA ACT 48: 50

INSTRUCTOR: Debora Supplitt
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COURSE DESCRIPTION:

This course is fast-paced and fun-filled and will tap into the limitless creativity of Adobe Express for BEGINNING users. Adobe Express is a "Free Forever" program for educators and students. Participants will develop classroom S.T.E.M. (Science, Technology, Engineering, Math) lessons by delving into Adobe Express's features. You will create professional-looking graphics, slideshows, presentations, infographics, and thematic S.T.E.M. (Spark) video stories exploring S.T.E.M. careers and professionals who have shaped, changed, and inspired worldwide change.

Adobe Education Exchange participants will come away with lessons, projects, and resources to take back to the classroom. Educators completing either the 400 or 500-level course will be introduced to Adobe Education Exchange (A.E.E.) and receive an "Adobe Creative Educator (A.C.E.) Level 1" digital badge, awarded through Adobe via Credly.

Introduction to Adobe Express video: YouTube 1:53 <https://www.youtube.com/watch?v=JD06MTTvAD4>

Target audience: This course is designed for all educators K-12 interested in infusing S.T.E.M. and Adobe Express into their curriculum.

It may also appeal to the following content area educators; computer science, elementary, early childhood, middle-level mathematics and science, secondary mathematics, secondary science, any designated sciences, career, and technical Education.

Additional cost: None. Participants may choose to Upgrade their Adobe Express Account to a Premium Membership for \$9.99 per month.

LEARNING OUTCOMES: Upon completion of this course, participants will have:

1. An understanding of the basic principles and general applications of Adobe Express.
2. Created, designed, and implemented Adobe Express S.T.E.A.M./S.T.E.M. project-based lessons.
3. Applied this gained knowledge to enhance the S.T.E.A.M./S.T.E.M. lessons/curriculum.
4. Gained access to additional resources to help support, create and expand engaging lessons.

COURSE REQUIREMENTS:

Completion of all specified assignments is required for issuance of hours or credit. The Heritage Institute does not award partial credit.

The use of artificial intelligence is not permitted. Assignment responses found to be generated by AI will not be accepted.

HOURS EARNED:

Completing the basic assignments (Section A. Information Acquisition) for this course automatically earns participants their choice of CEUs (Continuing Education Units), Washington State Clock Hours, Oregon PDUs, or Pennsylvania ACT 48 Hours. The Heritage Institute offers CEUs and is an approved provider of Washington State Clock Hours, Oregon PDUs, and Pennsylvania ACT 48 Hours.

UNIVERSITY QUARTER CREDIT INFORMATION

REQUIREMENTS FOR UNIVERSITY QUARTER CREDIT

Continuing Education Quarter credits are awarded by Antioch University Seattle (AUS). AUS requires 75% or better for credit at the 400 level and 85% or better to issue credit at the 500 level. These criteria refer both to the amount and quality of work submitted.

1. Completion of Information Acquisition assignments 30%
 2. Completion of Learning Application assignments 40%
 3. Completion of Integration Paper assignment 30%
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CREDIT/NO CREDIT (No Letter Grades or Numeric Equivalents on Transcripts)

Antioch University Seattle (AUS) Continuing Education Quarter credit is offered on a Credit/No Credit basis; neither letter grades nor numeric equivalents are on a transcript. 400 level credit is equal to a "C" or better, 500 level credit is equal to a "B" or better. This information is on the back of the transcript.

AUS Continuing Education quarter credits may or may not be accepted into degree programs. Prior to registering, determine with your district personnel, department head, or state education office the acceptability of these credits for your purpose.

ADDITIONAL COURSE INFORMATION

REQUIRED TEXT

An account with Adobe Express. <https://www.adobe.com/express/>

Optional:

New Adobe Express Beta (Adobe Express is still in the **Beta** stage of this site).
<https://new.express.adobe.com/>

None. All reading is online.

MATERIALS FEE

NONE. Participants may choose to purchase the Premium feature for Adobe Express. This is optional for \$9.99 per month.

ASSIGNMENTS REQUIRED FOR HOURS OR UNIVERSITY QUARTER CREDIT

A. INFORMATION ACQUISITION

Assignments done in a course forum will show responses from all educators who have or are taking the course independently. Feel free to read and respond to others' comments.

Group participants can only view and respond to their group members in the Forum.

Assignment #1: Introduction

In a 1-2-page document, introduce yourself, why you are taking this course, how you found out about this course, and any other fun-filled facts.

Post to your student dashboard.

Assignment #2: Create an Adobe Express Account & Padlet Account & a basic overview.

Remember this is a new skill so there will be FRUSTRATION. Simply take a breath, get a cup of tea and just pause any video and follow the videos step-by-step. Watch, Pause, Do...

Padlet sign up:

- Go to www.padlet.com
- Click sign up
- Sign up using your account
- Choose a Password (write it down)
- Create account.
- This will allow you to access the Padlet URL listed in assignments #2 and #8 for this course.

Access: Debbie Supplitt Padlet for step-by-step visual instructions for Creating an Adobe Account for Assignment #2 & Assignment #8.
<https://padlet.com/supplitt/adobe-express-basics-and-beyond-assignments-gcdndfyvnbvri28t>

You can always go to my Adobe Express Padlet Site as long as I continue to pay the yearly fee.

Adobe Express Sign-In and Log-In:

- Set up: Log in and create an Adobe Express Account
<https://new.express.adobe.com/>

Sign Up:

- Log in to Adobe Express
- Sign up with your personal Email
- Email Address + Password (write it down)
- Continue
- This should take you to the main Adobe Express Create a new project page.

Watch: White, T. January 2024. How To Get Started with Adobe Express: 10 Things Beginners Want to Know How To Do. YouTube:

Suggestion: **Watch Pause the video and Do.** 1hr.9 min. <https://www.youtube.com/watch?v=742e8cZyaYw>

Adobe is always changing their Adobe Express Homepage. As of **12/1/24** This is the Adobe Express Homepage looks like:
<https://new.express.adobe.com/>

Watch any of the videos that you may need for your setting: Quick Adobe Videos approximate time for each video is 1 min.
<https://www.adobe.com/express/learn/tutorials>

Watch: Kan, A. The NEW Adobe Express | How to use Adobe Express for YouTube! (2023)

YouTube 8:59 <https://www.youtube.com/watch?v=h5pFDA4l31s>

Mouchii Design. Graphic Design Using Adobe Express Tutorial for Beginners 2023 Youtube 11:17
<https://www.youtube.com/watch?v=j-zRwWMiQEA>

Activity: Background, Photograph, and Text ("B.P.T.") Creating an Adobe Express S.T.E.M. Project

- Think about a theme by blending two S.T.E.M. content areas.
- **Combine two (2) S.T.E.M.** components within your theme (technology/science, technology/engineering, technology/Math).
- **Background:** Choose a fun Background for your Theme. Follow the directions in the "Blue" column on Debbie Supplitt's Adobe Express Padlet.
<https://padlet.com/supplitt/adobe-express-basics-and-beyond-assignments-gcdndfyvnbvri28t>
- **Photo:** Access Adobe Free Stock photos under Photos. Follow directions on the "Purple" column in the Padlet.
<https://padlet.com/supplitt/adobe-express-basics-and-beyond-assignments-gcdndfyvnbvri28t>
- **Text:** Access Text. Follow the directions in the "Yellow" column on the Supplitt Padlet.
<https://padlet.com/supplitt/adobe-express-basics-and-beyond-assignments-gcdndfyvnbvri28t>
- **Rename** "MY PROJECT" (upper left side of your project page). Click on "My Project" and change the name of your project. the name can be as easy as naming your project "My first project". If you get into the habit of naming each of your adobe express projects your Adobe work flow will be much better.
- **"Download" & "Share"** your project to your Google account. Allow access (scroll to the bottom to accept).
- **Copy the image.** Mac=Shift/Command/#4. Drag over are you want to copy.
- **Windows:** Windows icon in the lower-left corner of the screen. Copy the image or Snip Tool.

Write A 2-3 page paper describing how you might adapt, adjust or refine this assignment to best meet your student's needs. How might you include this project in your curriculum?

Post your project and written response to your student assignment dashboard.

Assignment #3: S.T.E.A.M./S.T.E.M. Creating a front and back (2 page) S.T.E.M. Related Postcard.

Watch: Watch, Pause the video, and create a project with the video.

LYH Studio. 2024. Learn Adobe Express in 13 MINUTES! | Templates, Social Media, Posters Etc. | Beginner Basics

<https://www.youtube.com/watch?v=2qDnDd3QunU>

- <https://www.youtube.com/watch?v=2qDnDd3QunU>

Assignment: Think about a S.T.E.M. Theme idea or Concept: Science, technology, engineering/design, or Math.

- Combine two (2) S.T.E.M. components within your theme. (Technology/science, technology/engineering, technology/Math).
- Create a unique Adobe Express S.T.E.M. Postcard (front and back), multiple pages, using the steps outlined and covered in the video.
- This activity theme should include two (2) S.T.E.M. components, Technology & Science, OR Technology & Engineering/Design, OR Technology & Math.

Write: Write a 1-2-page, paper. Outline the steps taken to create this S.T.E.M. project. Include;

- The skills introduced in this video assignment
- How these skills and/or activities might be included within the blended two S.T.E.M. components.
- Include the grade level or discipline this activity may be geared towards.
- Include any thoughts, concepts, or ideas you may have had while creating this project.

Post the assignment and your written response to your student assignment dashboard.

Assignment #4: S.T.E.M. Infographics

Watch: Lightning Learning. Deepening Student Learning with Infographics. Infographics with adobe express:

- Overview of step-by-step creating video: 1:16
<https://www.youtube.com/watch?v=J3sAYY-mcJ0>
<https://www.youtube.com/embed/J3sAYY-mcJ0>
- **Activity:** Adobe Education Exchange Courses
- **Watch:** You may wish to have your Adobe Express ready to create this new project.
- **Access** this Adobe Ed. Ex course.
<https://edex.adobe.com/professional-learning/self-paced-course/infographics-with-adobe-express>

Enroll (free) to access Claudio Zavala's step-by-step "Lightening Learn" project video.

- Click Continue Learning.
- Scroll down to: Log in to Adobe Express and remix the downloaded example.
- Individualize the shown template to reflect your setting.
- Download and share image.

Watch: Video Task #2, Make Complex Ideas Easy to Understand/Infographics using Adobe Express.

- YouTube Adobe in 15 min - Infographics in any subject area | Adobe Education in APAC13:46
- Watch, pause and create with the video.
- <https://www.youtube.com/watch?v=JPzFWsrnP2Q&t=6>

Assignment #5: Continue with Infographics

Continue with Infographics Steps 3 & 4, with Adobe Express and Adobe for Education, Teacher Resource Site.

- Watch: Adobe for Education, Claudio Zavata (2022). Help Student's Understanding Unfold. YouTube 5:38
<https://www.youtube.com/watch?v=ICpncpGP8Kg>

Continue to Create a S.T.E.M. Infographic from Assignment #4:

This created infographic theme should include two (2) S.T.E.M. components (technology & science, OR technology & engineering/Design, OR technology & math).

Access: Infographics with Adobe Express.

<https://edex.adobe.com/professional-learning/self-paced-course/infographics-with-adobe-express>

- Complete Steps #3-4 and post your assignment to the Adobe Education Exchange.
- "Download" and "Share" your file.

- Copy the image.

Watch: (within Step #4) Share What You've Learned with Others. YouTube 00:50

<https://www.youtube.com/watch?v=nr0lrrnXmgU>

<https://www.youtube.com/embed/nr0lrrnXmgU>

Explore: Teaching Resources for Educators; Adobe for Education.

<https://edex.adobe.com/explore-teaching-resources>

Reflect: How can you have students recreate infographics for future S.T.E.M. lessons.

Activity:

Choose one of the four given infographics from the Adobe course setting . Remix the template using the theme to include two (2) S.T.E.M. components (technology & science, OR technology & engineering/Design, OR technology & math).

- Push Next
- Download, Share, and make a copy of your S.T.E.M. infographic.

Write a 1-2-page paper. "What can you do to add infographics to your curriculum?" Include what you discovered in the Adobe for Education/Teaching Resources site. How might you utilize the Adobe for Education Resource site?

Post all images and written responses to your student dashboard.

Assignment #6: S.T.E.M. Careers Choice Posters.

Access: Adobe Express Editable Poster Templates; <https://www.adobe.com/express/templates/poster>

In the Search bar, write a S.T.E.M. The search will net over 178 different Poster templates to redesign.

Choose any template to redesign.

Activity:

Theme: You are to design a career poster based on two selected areas of S.T.E.M.

Research:

Do a Google or research search for "S.T.E.M. Careers" (additional lists can be found in the course bibliography).

- Choose and blend two content areas.
- Note how the two careers may overlap.
- Design a poster highlighting the two content areas and how they may overlap.

Read Micro Printing. (2023) 6 Important things to Account for before Printing a Poster

<https://www.microprinting.ca/6-important-things-to-account-for-before-printing-a-poster/>

Think about:

- Tour design purpose
- Target audience
- Color scheme
- What image(s) to use
- Style and font

Activity: Create one career poster using two areas within two (2) S.T.E.M. components (technology & science, OR technology & engineering/Design, OR technology & math).

Write a 1-2-page response to why you feel incorporating Adobe Express Technology learning experience with one of the following STEM Elements (Technology and Science, Technology and Math, Technology and Engineering/Design) might be important to include within the curriculum. Highlight your thinking process for creating your S.T.E.M. career poster.

Post your Adobe Express S.T.E.M. career poster and written response to your student dashboard.

Assignment #7: Adobe Express: Adobe Educational Exchange (AEE): Enhancing S.T.E.M. Lessons.

Access: Adobe Education Exchange Site URL:

<https://edex.adobe.com/search?type=projects&template=includesTemplate&product=Adobe%20Express>

Explore and Set up your AEE:

“Narrow your search” (found on the left side)

- **Type:** Select Teaching Resources
- **Subject:** Choose a S.T.E.M.-based subject; Either Art Architecture/Engineering or Design, or Humanities, or Mathematics, Science & Engineering, or Social Science or another S.T.E.M. related core subject.
- **Product:** Express (scroll down)
- **Include** Editable Template: click Includes Template
- **Education Level** Click the drop-down arrow (>): Select either Primary (ECE, K-2, 3-5), Secondary (6-8, 9-12), or Higher Education
- **Resource Time to complete:** Select a minimum of 1-2 hours or more
- **Author Adobe for Education.**

Activity: Use the selected resources as your inspiration to create any S.T.E.M. lesson. Choose and create a lesson combining two of the S.T.E.M. concepts (Technology & Science, OR Technology & Engineering/Design, OR Technology & Math) for your lesson theme.

- Write a 1-2-page paper discussing the two combined lessons.
- What two S.T.E.M. content areas you selected
- What plans do you have to use S.T.E.M. within this lesson?
- Who will this S.T.E.M. project be presented to?
- What materials, hardware, and software do you need to present this lesson?
- How you will roll out this S.T.E.M. lesson.
- Why you selected this S.T.E.M. area.
- How you will implement this lesson into your curriculum.

Post your created S.T.E.M. Lesson and written submission to your student dashboard.

Assignment #8: Adobe (Spark) Video/Biography; Individuals in the S.T.E.M. field.

Create an Adobe Express Video (with audio narration and music) based on any person and/or Career in the S.T.E.M. field (Resource lists found on assignment #8 Padlet and the course bibliography).

Step-by-Step instructions can be found under Assignment #8 Adobe Video Padlet.

<https://padlet.com/supplitt/adobe-express-basics-and-beyond-step-by-step-instructions-fo-gcdndfyvnbvri28t>

Activity: Create an Adobe Express Video biography (at least 10 scenes including title page and credits) based on any person in the S.T.E.M. field.

From a Google Search or resource of your choice, select a S.T.E.M. individual that has made an impact in the S.T.E.M. field.

Create an Adobe Express Video, with narration and music, highlighting this person.

You can create your video at the same time while you are viewing the videos.

Watch: Teacher Tech: Adobe Express Video: How to use Adobe Express to Edit Videos for Free! (2023)

<https://www.youtube.com/watch?v=E44h1OHylwk>

ADDITIONAL ASSIGNMENTS REQUIRED FOR UNIVERSITY QUARTER CREDIT

B. LEARNING APPLICATION

In this section, you will apply your learning to your professional situation. This course assumes that most participants are classroom teachers who have access to students. If you do not have a classroom available to you, please contact the instructor for course modifications. Assignments done in a course forum will show responses from all educators who have or are taking the course independently. ?Feel free to read and respond to others' comments. Group participants can only view and respond to their group members in the Forum.

Assignment #9: S.T.E.M. five (5) Adobe Express Lesson Plans:

Create:

Use any Lesson Plan Template (Free template URL found in this course bibliography).

Using your chosen template create five (5) S.T.E.M. lessons combining at least **two** of the S.T.E.M. components (science, technology, engineering, mathematics) for each lesson.

Write a 1-2 page paper discussing your developed Adobe Express lessons:

- Which two components of S.T.E.M. were included within your created lessons.
- Which grade level these S.T.E.M. lessons are geared towards
- What your goals
- Prior knowledge
- Learning Objective
- Procedure
- Time frame
- Any additional sources and/or materials needed

Post the **five (5)** created S.T.E.M. Lessons and written submission to your student dashboard.

Assignment #10: Adobe Creative Educators Badge Level 1

Develop grade-specific S.T.E.M. lessons and/or units with Adobe Express.

Access: Adobe Creative Educators Get Started URL: <https://edex.adobe.com/adobe-creative-educator>

- Click Get Started: Complete the following five steps:
- Start Your Journey: Level 1-Adobe Creative Educator:
- Step 1: ACE One-hour course to review the creative S.T.E.M. process and what it looks like inside and outside the classroom.
- Step 2: At the end of the ACE course, submit your project: Cultivating Creativity and S.T.E.M. in the Adobe Education classroom.
- Step 3: Post your ACE project to the Adobe Dashboard. (Make a copy for your Heritage dashboard)
- Step 4: Take a screenshot of your "Congratulations, you have Completed ACE Level 1".
- Step 5: It may take a week for Credly to send your "Adobe Creative Educator Level 1" digital badge.

Application:

Select any S.T.E.M. Lesson Plan Template: Create the selected lesson plan template.

Given the lessons/projects you just created for your ACE project and within this course, implement this lesson within your given setting, classroom, collaboration, or present to your colleagues.

ACE Lesson Plan:

Post to your ACE (Adobe Creative Educator) student dashboard a copy of your Adobe Creative Educator (ACE) Lesson Plan based on your blended S.T.E.M. project completion.

Take a screenshot of the completion screen.

Write a 2-3 page paper discussing your Adobe Creative Education process and developed STEM lesson.

Post to your Heritage student dashboard your written paper, your ACE lesson, and digital completion screenshot and/or digital badge.

Assignment #11: (500 Level ONLY)

Activity: Develop an Adobe Express S.T.E.M. Unit for your setting/classroom.

You may choose to include the previous STEM lessons created/plus any other lessons to add to your S.T.E.M. Unit plan.

Group the sequential lessons by:

- Unit Topic
- Skill Level
- Essential Question
- Blended S.T.E.M. theme
- Sub-Topics and skills needed
- Steps in the process
- Skills developed
- Enduring understanding
- Development of a formative assessment

- Development of a Summative assessment
- How the two assessments may reflect student learning acquisition.
- Include videos, resources, and any other materials needed for this S.T.E.M. Unit plan.

Post your developed S.T.E.M. Unit to your student dashboard.

Assignment #12: (500 Level ONLY)

In addition to the 400-level assignments, complete three (3) of the following assignments:

Option A)

- Collaboration with peers and/or colleagues.
- Meet with a colleague and share what you have learned.
- Talk with your colleague about how you will integrate these Adobe Express S.T.E.M. practices into their curriculum.
- Invite your colleague to introduce this practice and/or adapt their current meeting practices to invest deeper in different areas with you as partners. Post your response which should include an overview of the conversations, a response to your learning experience, and your comfort level in sharing Adobe Express moving forward.
- Write a 2-3 page overview from the conversations, a response to your learning experience and your comfort level in sharing Adobe Express.

AND/OR

Option B)

What are the implications of academic integration to the core curriculum inspired by S.T.E.M. lessons with Adobe Express.

- Create an Adobe Video narrated and music presentation outlining Adobe Express and how it can be used to add S.T.E.M. into the common core curriculum.
- Adobe Video presentation should be a minimum of 10 slides.

AND/OR

Option C)

Create a PowerPoint or Adobe Express Presentation for your students, families, peers, or colleagues.

Using Adobe Express, Adobe Express Video (including narration), and music

- Create a beginning Adobe Express Video presentation for students' training outlining how to start with Adobe Express.
- PowerPoint or Adobe Express Video should be a minimum of 10 slides, including title and credit slides.

AND/OR

Option D)

Create a presentation for your site administration, district technology department, staff, or school board.

- Activity: Develop a created Adobe Express presentation to advocate for a classroom, site, and district-wide rollout of Adobe Express.
- Using Adobe Express develop a S.T.E.M. presentation outlining how S.T.E.M. blends into the common core curriculum, the many features of Adobe Express, accessing Adobe Educator Resources, and how this free program can be simply accessed and used by students, staff, and administration.
- The presentation should be a minimum of 3 to 5 minutes in length.

AND/OR

Option E)

YOUR CHOICE!

An assignment of your own choice, with the advisor's prior approval.

Write: Which three options you chose for Assignment #12. Discuss any issues, missed concepts, successes and/or pitfalls you may have experienced. Also, include any future outcomes using Adobe Express.

Post your response to your student dashboard.

C. INTEGRATION PAPER

Assignment #13: (Required for 400 and 500 Level)

SELF REFLECTION & INTEGRATION PAPER

(Please do not write this paper until you've completed all of your other assignments)

Write a 400-500 word Integration Paper answering these 5 questions:

1. What did you learn vs. what you expected to learn from this course?
 2. What aspects of the course were most helpful and why?
 3. What further knowledge and skills in this general area do you feel you need?
 4. How, when and where will you use what you have learned?
 5. How and with what other school or community members might you share what you learned?
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INSTRUCTOR COMMENTS ON YOUR WORK:

Instructors will comment on each assignment. If you do not hear from the instructor within a few days of posting your assignment, please get in touch with them immediately.

QUALIFICATIONS FOR TEACHING THIS COURSE:

Debora Supplitt M.F.A.-A.Ed./M.Ed. received her Masters (M.Ed.) and Bachelor of Art (B.A.) degree from San Francisco State University and Masters of Fine Arts in Art Education (M.F.A.-A.Ed.) from Boston University. She has worked with students of all levels, including preschool, elementary, middle school, high school and professional educators, since 1980. She is certified in Washington, Oregon and California in Pre/K-12-Adult Special and Elementary Education and is highly qualified in the core areas of Art, Music, Reading, and Special Education as well as being a trained Intervention Specialist. Debora knows the importance of providing a creative environment where all students and teachers can thrive. Presently she is working in her dream position as a full time middle school Art Teacher. Debora provides classroom teachers with the tools and resources needed to integrate art into the daily curriculum and is always busy developing new, creative and fun workshops for teachers. She is passionate about providing exciting, meaningful, useful and fun filled continuing education for all teachers.

BIBLIOGRAPHY

S.T.E.M. Adobe Express: Basics & Beyond

Adobe Education Exchange (2023). Home page to Adobe Express teaching resources.
<https://edex.adobe.com>

Adobe Education Exchange (2023). Adobe Express Teacher resources and lesson plans direct page.
<https://edex.adobe.com/explore-teaching-resources>

Adobe Express (2023). Sign up and Log in.
<https://express.adobe.com/sp/>

New Adobe Express BETA Version 6/8/2023. Adobe Express. **Optional exploration.** <https://new.express.adobe.com/>

Hochradel A. (2022). Adobe Express for Beginners. Adobe Creative Cloud. YouTube: 26:45. Assignment #3 Postcards from the Edge. <https://www.youtube.com/watch?v=LfJ5jUgLEBk>

Jacobson, E. SAM Labs. (2023) The SAM Blog. 5 Truly Inspiring STEAM Figures. STEAM Careers and inspirational people. <https://samlabs.com/us/inspiring-steam-history-fusing-science-technology-arts/>

MakerKids (2022) Famous People in STEM. List of famous people in the STEM field. <https://makerkids.com/famous-people-stem-makerkids/>

MissM, Teachers pay Teachers: Free STEAM Lesson Plan Template (2020) Download <https://www.teacherspayteachers.com/Product/Free-STEAM-Lesson-Plan-Template-6216838?st=6b0d8d1cae09dbaa6b597ddd6d02877c>

She+GeeksOut. (2022) 17 Women in STEAM from Around the World to Inspire on International Women's Day 2017. Women who have made a difference in the STEAM field. <https://www.shegeeksout.com/blog/17-women-steam-around-world-inspire-international-womens-day-2017/>

The Institute of Engineering and Technology (2023) 95 Inspiring Engineers and Technologist of the Past, Present, and Future. Present-day and historical figures in the STEAM field. <https://www.theiet.org/media/campaigns/celebrating-the-impact-of-inspiring-engineers-and-technologists-from-the-world-of-stem/95-inspiring-engineers-and-technologist-of-the-past-present-and-future/>