

Curricular Unit Template Description

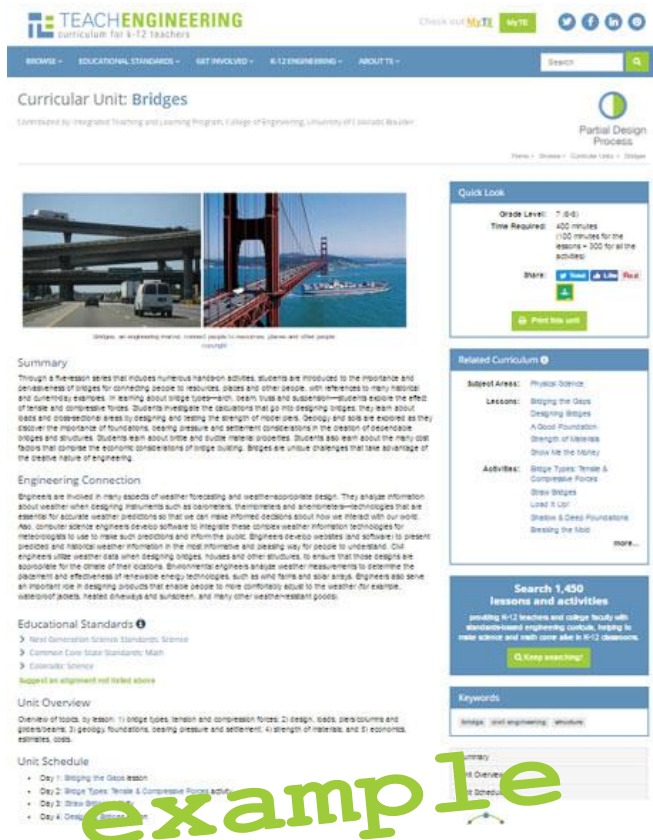
A published unit on TeachEngineering might look like this [example](#) →

The curricular unit template is the shortest one. It is most often used as a “shell” to tie together associated lessons and activities into a unit. It is also a good place to explain how the various lessons and activities build on each other so that together they create a cohesive unit.

Information in this document provides teachers with key information to quickly review the unit to see if it meets their needs before they examine the unit’s lessons and activities.

This template describes the **required** and optional components for all units published in the TeachEngineering digital library collection.

Visit www.TeachEngineering.org > Browse > Curricular Units to see examples of unit content and how they render on the website.



example

Curricular Unit Title

[Provide the title of the unit. No formatting (such as italics or bold) permitted. Since 1,400+ documents are available in the collection, provide a descriptive and/or catchy title to differentiate your work.]

Header Example: Insert Image 1 here, align right, wrap text [(optional) Use Header to add an image at the top of the unit document. We recommend a header photograph. Also, each time you insert an image, use a box like the one below to provide info. You may also include images in the Unit Overview and Unit Schedule sections below.]

Image 1

Image file: cub_airplanes_unit_image1.jpg

ADA Description: A photograph shows a uniformed female pilot in a plane cockpit surrounded by a control panel of dials and indicators. *(Write as if describing the image to a blind person; do not repeat caption content.)*

Source/Rights: © 2004 Microsoft Corporation, One Microsoft Way, Redmond, WA 98052-6399 USA. All rights reserved.

(optional) Caption: Engineers design navigation systems for all types of transportation.

For more info, see [Requirements & Tips for Using Images](#) on the [Submit Curriculum](#) page.



Subject Area(s)

[Identify subject area(s) that are *in common* for every lesson and activity of the unit; all a unit's "child" documents will be linked to these same subject areas. [Choose from](#): algebra, biology, chemistry, computer science, data analysis & probability, earth & space, geometry, life science, measurement, number & operations, physical science, physics, problem solving, reasoning & proof, science & technology. TeachEngineering users can browse the collection for curricula by subject area.]

Grade Level

___ (___-___)
[What grade(s) is (are) targeted in this unit? "It is targeted for grade __, but could work for grades __ to __." *Example*: 8 (7-9) or 8 (8-8) for just eighth grade, or 8 (5-9) if it also works for lower-grade students.]

Summary

[Provide a brief paragraph summarizing the unit and the topics covered. Must be one paragraph of plain text, no images or formatting. Write in present tense, not future.]

Engineering Connection

[Provide 60-100 words or ~3 sentences describing how the scientific and mathematical concepts being studied in this unit pertain to real-world engineering. (Do not recap the unit summary.) Explain for the teacher how everyday engineering ties to what is being done in the unit's lessons or activities. For example: Engineers must fully understand the concepts of heat transfer via conduction when they design kitchen appliances. Or, associate concepts to particular fields of engineering, for example, if the concepts of tension and compression are covered, say that civil and mechanical engineers use these principles when they design structures such as bridges and roller coasters. Identify how or where students are doing engineering, for example: Students play the role of engineers as they design and build biomedical prototype devices. Or: Like engineers, students apply the concepts of heat transfer via conduction in the Assessment section when making plans for home insulation. Provide no more than one paragraph of plain text, which means no images or formatting.]

Engineering Category =

[Indicate which of the following best describes this unit's amount or depth of engineering content:

1. relating science and/or math concept(s) to engineering
2. engineering analysis or partial design
3. engineering design process

Anecdotally, category 1 is primarily science/math with some engineering, category 2 items are primarily engineering with some science/math, and category 3 presents full engineering design. For more complete descriptions of each category, see the [TE Engineering Categories Description](#) document (pdf) on the [Submit Curriculum](#) page. In rare instances, activities work as a whole, in terms of their level of engineering design content, so that the lesson or unit has a different category than the activities below it. For example, a unit might be category 3 because its lessons and activities contain all of the steps in the engineering design process even though none of those individual lessons and activities is categorized as providing the complete engineering design process.]

Keywords

Example: biomedical, biotechnology, body, health, human body, medical

[(optional) Provide 0-10 keywords. They should be words a layperson and K-12 teacher would know and **might use to search** for the unit. They should apply to all lessons/activities in the unit, which means there might be just a few. List in A-to-Z order, lower-case unless proper nouns. Usually, make nouns singular. Avoid highly technical words or lingo. It is likely you have used these words in the summary. Even though TE provides full text search capability, often these become the few keywords that are seen by other websites that search the collection.]

Educational Standards

[(optional) Only list educational standards that are common to the majority of the lessons and activities of the unit. Find educational standards on the TeachEngineering website: [browse/search all educational standards](#). Choose **specific standards, not just the broader objectives of the standards**. Also, so that TeachEngineering is able to precisely identify the standards you have chosen, for each, please include the source, year, standard number(s)/letter(s), grade band and text (if available, its unique ID# is optional, but helpful). Examples:

North Carolina, science, 2004, 1.01 (grades 8-8): Identify and create questions and hypotheses that can be answered through scientific investigations. ID# [S1028531](#)

ITEEA, 2000, Standard 8: Design, C (grades 3-5): The design process is a purposeful method of planning practical solutions to problems. ID# [S114173C](#)

Note for Massachusetts: The middle school science standards are written in the same format except that instead of a “strand” there is a number: 1 for Earth and Space Science, 2 for Life Science and 3 for the Physical Science strand. For example, 1.12 stands for the “Relate the extinction of species to a mismatch of adaptation and the environment” standard in the earth and space science strand.]

Related Lessons & Activities

[To make sure that all the associated lessons and activities of a unit are linked together in the TeachEngineering collection, list every one of them in this section. For each, provide its title.]

Related Lessons

- Lesson titles here in 1, 2, 3 order...

Related Activities

- Activity titles here...

Time Required ___ minutes *Example:* 600 minutes

[(optional) To help in teacher planning, provide an estimate of the time to complete the entire unit and its lessons and activities, in minutes. Cannot be a time range. May add a brief explanation to more fully explain the time requirements, such as: “twelve 50-minute class periods.”

Unit Overview

[(optional) If it helps explain the unit, provide an overview to describe the parts and/or steps within a unit, or a recap of topics by lesson.]

Unit Schedule

[(optional) If it helps explain the unit, provide a suggested schedule/order or describe how the various lessons build upon or relate to each other.]

Summary Assessment

[(optional) If desired, describe summary assessments or the use of assessment tools to help teachers gauge students’ comprehension of the unit topic(s), such as pre/post-unit quiz and test attachments.]

Attachments

[(optional) If the unit has any attachments, such as tests or quizzes, list them here. On TE, they will be linked to files. Provide original format versions (Word, PowerPoint, Excel) so teachers can modify; TE will make the PDF versions. When listing the attachment names, indicate the file format (see example, below), to help teachers choose what to download/print.]

Examples:

[Aerodynamics and You Pre/Post Unit Quiz \(docx\)](#)

[Aerodynamics and You Pre/Post Unit Quiz \(pdf\)](#)

[Aerodynamics and You Pre/Post Unit Quiz Answer Key \(docx\)](#)

[Aerodynamics and You Pre/Post Unit Quiz Answer Key \(pdf\)](#)

Other

[(optional) This component is available for information that doesn't seem to fit in anywhere else.]

Redirect URL

[(optional) To direct teachers to required internet materials, provide one URL, which will be rendered in TE by a note in the boxed information at the top of the document, like this: **Attention:** This unit requires the following resource: <http://theURLhere/>.] See an [example](#).

Contributors

[(optional) List the name(s) of who contributed to developing, testing, reviewing and editing this unit. List the primary creator first. Role and organization may be included, too.]

Example: Jay Shah, Malinda Schaefer Zarske, Janet Yowell

Supporting Program

[Briefly provide the name and organization of the source of this curricular content.]

Example: STARS GK-12 Program, College of Engineering, University of South Florida

Acknowledgements

[(optional) Provide brief text to acknowledge significant funding or other support.]

Example: This curriculum was developed under National Science Foundation GK-12 grant no. DGE 0338326. However, these contents do not necessarily represent the policies of the National Science Foundation, and you should not assume endorsement by the federal government.

Classroom Testing Information

[Briefly describe the K-12 in-classroom testing conducted with this curriculum. Indicate the month, school, location, grade and number of students.]