

Web resources Guide for Mechanical Engineers

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I. Front matter

a. What is in the Guide

This guide will provide information about websites that are helpful for mechanical engineers. It will explain the content of the websites and some facts to ensure their trustworthiness. The guide will also include how valuable and helpful each website is for mechanical engineers. Furthermore, the guide states some tips on how to use the resources efficiently and easily discover the content.

b. Who this Guide is for

This guide will be useful for mechanical graduates and undergraduates. If you are a graduate for more than 5 years this guide might not be beneficial. To use all resources in the guide it is recommended that the user is a Penn State student, as there is information that cannot be accessed unless you have a PSU account.

c. What this Guide assumes

This guide assumes that the user is looking for websites to broaden their perspective in the field. Also, that he/she is looking for resources to meet other colleagues in the field.

d. Organization of this Guide

Each resource is sub-headed with its purpose followed by information and tips.

e. Tips for using this guide

- Browse through the internet first then use the guide
- Use the table of contents in order to find what you are looking for

II. Abstracts

a. Index resource

Website URL:

<http://search.proquest.com.ezaccess.libraries.psu.edu/ntis/advanced?accountid=13158>

Website name: National Technical Information Service.

What is in the Website:

This website is accessible to Penn State students. It is a research engine for articles and databases. In this website there are two options: basic search and advanced search. The basic search is for elementary searches. It has one input box. If you are not looking for something specific, the basic search is very handy and doesn't have many options. For example, when you want to explore a general topic, you can type in a phrase into the search box. Whereas the advanced search gives you options to enhance your search. You can specify if the phrase entered in the search box is a publication title, abstract, author, etc. Also, you can indicate the source type of what you are looking for, for instance, books or magazines. A very useful option in the advanced search is that you can choose the language of the subject you are exploring.

How is this information relevant and useful:

This website helps you to understand and explore the materials covered in mechanical engineering. For example, some books used to teach Penn State students include some examples of previous tragedies that were used to innovate new technologies. This website gives you the opportunity to explore more about these events or articles.

Tips to use the resource efficiently:

- When using this website it is recommended that you have more than one search phrase for better results
- Try to use the basic search first and then use the advanced search to know what you are looking for exactly

b. Subject Encyclopedia

Website URL: <https://www.khanacademy.org/welcome>

Website name: Khan Academy

What is in the website:

Khan Academy provides elementary and advanced lessons in math, science, and computing. It can be accessed with either a Google plus or Facebook account. The website includes videos that help you to understand a certain subject. For example, if you go under the “sciences” tab you can press on “physics” and it will include topics that are taken in physics classes. If you explore in a certain topic, the website will provide you with a lecture video. After every video you could ask question or see questions asked by previous users.

How is this information relevant and useful to Mechanical Engineers:

Mechanical engineers use many tools that help them to solve problems. For instance, differential equations are used a lot in the mechanical field; however, a person might need refreshing in some materials or have questions that need to be cleared up. This website will help you understand the material that you might not be confident in through video explanations. Subjects such as math, physics, and computer programming are used continuously in the field of engineering.

Tips to use the resource efficiently:

- Choose an elementary topic to familiarize yourself with the features of the website
- Be sure to check subtopics for more details
- Watch the lecture video first then read the questions asked by users to clear up concerns

c. Social

Website URL: <https://www.asme.org>

Website name: American Society of Mechanical Engineers

What is in the website:

ASME was established 130 years ago to fund and develop programs of future engineers. It is social a website that includes group meetings and events, specifically for mechanical engineers. The website requires free registration to get access. It has a variety of options for users:

- Get connected with colleagues in the same field
- Attend group meetings
- Volunteer in ASME events
- Read news, articles, and mechanical engineers points of view

How is this information relevant and useful to Mechanical Engineers:

It is very important for a current student or graduate to be connected to the world. In case you are facing problems in the field, ASME can help you to get advised. ASME allows you to meet professionals who have succeeded in mechanical engineering. Learning does not end when you graduate, and so this website helps you to attend group meeting that discuss solving problems and new technologies. Furthermore, attending ASME meetings and volunteering will attract employers and improve your resume.

Tips to use the resource efficiently:

- There are membership fees to access more advanced features. However, you could access the information given above without paying the membership fees.
- There is a search box were you could type in what ever you are looking for, like jobs, meetings, articles. Search results are associated and not associated with ASME.

d. Job search service

Website URL: <http://jobs.monster.com>

Website name: Monster

What is in the website:

Monster is a global online employment search engine. It has been providing jobs for over 20 years. Each minute that passes Monster has more than 7900 jobs searched and 29 resumes uploaded. Monster offers its services to more than 40 countries. It is operated only in English. The website can be browsed to see its content, however, registration is required in order to send resumes and apply for a job. The website allows you to look for jobs in terms of:

- Location
- Skills
- Job titles
- Preferred companies

How is this information relevant and useful to Mechanical Engineers:

Monster helps students who have graduated to see their options and explore opportunities. Monster also allows you to apply for jobs outside of your vicinity. It helps students to decide where they want to live. Monster service will expedite the application procedure for free. This website permits you to search for your specified skills that you are good at and feel comfortable doing.

Tips to use the resource efficiently:

- Press the icon “career resources” to find sample resumes and resume tips
- The webpage provides you with popular options, but you can input what ever you are looking for in the search box.

e. Research studies and other professional matters

Website URL: <http://www.icademic.org>

Website name: Icademic

What is in the website:

Icademic provides useful resources in many areas of engineering and life-science. There is a search box that allows you to get information about your major in these specific locations: USA, Europe, and Asia. The website categorizes the results into:

- Reputable departments
- News
- Journals and Books
- Other sites associated with you major
- Industries and Researches

How is this information relevant and useful to Mechanical Engineers:

It is sometimes hard to have all the information you need in one website. However, Icademic includes what you need in one page. Icademic assists you to look at the mechanical departments in reputable universities, incase you are planning to work or complete graduate education there. Keeping up with the news is also vital for engineers. Also, looking into companies will guide you to decide which company you should work for and impress future employers with your knowledge of the company.

Tips to use the resource efficiently:

- When searching, minimize your search after viewing all options.