

Technical Writing (ENGL 202C)

[Internet Resource Guide]

[for Mechanical Engineering Majors]

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Table of Contents



| Title..... | Page# |
|--|-----------|
| 1.0 Preface..... | 3 |
| 1.1 Contents/scope..... | 3 |
| 1.2 Audience/purpose | 3 |
| 1.3 Guide Organization..... | 3 |
| 1.4 Reader’s Background Assumptions..... | 4 |
| 1.4 Tips for using the Guide..... | 4 |
| 2.0 Internet Resource Guide..... | 5 |
| 2.1 Penn State Department of Mechanical and Nuclear Engineering website..... | 5 |
| 2.2 Chegg Study..... | 6 |
| 2.3 Engineering Leadership Development Program...7 | |
| 2.1 ME 325, Fluids Laboratory Homepage..... | 8 |
| 2.5 Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering..... | 9 |
| 2.6 The Catalog of U.S. Government Publications...10 | |
| 3.0 Resources..... | 11 |

1.0 Preface



1.1 Contents/Scope:

This guide provides many precious resources to a wide range of audience of interest. The content of the guide introduces prospective undergrad students of mechanical engineering, freshman, and sophomore students of the different engineering majors to different resources that are critical for their success in their major, especially at Penn State University.

However, the guide content focuses on undergrad students of Mechanical Engineering at PSU, as all of the resources were meant to serve their needs. The resources included technical professional journal information about the Mechanical Engineering field, technical database, professional organization, information on helpful websites.



1.2 Audience/Purpose:

The primary audiences for this internet resource guide are the undergrad students majoring in mechanical engineering, as the elaborated resources would provide them with academic guidance throughout their undergrad years. The guidance includes helping the student develop his/her academic plan efficiently. By doing so, the student may get a minor combined with his/her major upon graduation. Furthermore, the resources are meant to help the students succeed academically by providing them useful links that include online tutoring and different valuable information about mechanical engineering resources mainly at Penn State University.

Prospective undergrad students of mechanical engineering may find some of useful resources that would introduce them to Mechanical Engineering in general and The Department of Mechanical Engineering at The Pennsylvania State University.. Plus, online help resources that assist in studying were provided in the guide, and it is meant to serve their level too.



1.3 Guide organization:

The organization included a cover page and a table of content in the first two pages of the internet resource guide. The table of content listed the headlines and the sub-headlines along with their associated page numbers. Each headline starts a new chapter number and the sub-headlines follow the same chapter number, but with different section numbers. For an example, 1.0 Preface followed by 1.1 Content/Scope. The headlines were in blue and the sub-headlines in red to prompt the reader to navigate easily through the document. Graphics related to each topic in the sub-headlines were added to support the topic and to improve the overall design of the guide.

The sources had an invaluable amount of information as it included a description, and a location that described the source and where it can be found either with URL or in the library journal, etc. Then sources had a concise and an informative abstract about the features of each source. Finally, tips for users were added to maximize the users profit of the source and improve their experiences.

The resources were organized and arranged by their academic level, in which information the information that targeted the prospective mechanical engineering undergrad students were first. Then the resources included the information targeting the freshmen and sophomores. Finally, the resources that targeted juniors and seniors.



1.4 Reader's Background Assumptions.

The audiences of the internet resource guide are prospective mechanical engineering undergrad student and mechanical engineering undergraduate students. The resource provided were arranged based on the academic level, starting by the prospective mechanical engineering undergrad students and ending with senior mechanical engineering students at PSU.

Therefore, the first three resources require the basic knowledge of web browsing and the essential general idea of engineering. Then the last two resources require the basic knowledge of engineering, sophomore of engineering majors as an example.



1.4 Tips for Using The Guide:

- Use the table of content to allocate the different resources of interest as it includes the headlines with the resources as sub-headline, and it also has the page numbers associated with resources.
- Remember the headlines were colored in blue and the sub-headlines (the resources) in red to help you navigate easily through the document. The graphic icons associated with resources were meant to improve the experience and introduce the resources associated with them.
- The internet resources provided in the guide includes a description, location, informative and concise abstract, and finally tips to help improve the reader's experience and output of the resource provided.

2.0 Internet Resource Guide:

2.1 Penn State Department of Mechanical and Nuclear Engineering Website.

Professional Organization

Location:

Homepage: <http://www.mne.psu.edu/>

Abstract:

The Department of Mechanical and Nuclear Engineering of The Pennsylvania State University offers the following site to provide the different visitors with different information related to the department and its majors. Also, the website has a variety of research resources for the mechanical and nuclear engineering majors including undergraduate, graduates, and post graduates levels. The targeted audience for this site are students interested to be undergraduate students in either mechanical or nuclear engineering majors, minors, undergraduates, graduates, post graduates, family members, alumni, and partners of the department.

The Mechanical and Nuclear Engineering Department provides the prospective undergrad students of mechanical and nuclear engineering with advice about those engineering fields under students tab. The site expands by offering the visitors with further resources that explain some of the majors by describing their industries and their job market.

Undergraduate, graduate, postgraduate students can find different information related to majors, minors, and certificates under students tab under academic plans. Those information are highly important is it highlight the requirements for the different majors and minors. Developing a good academic plan help in improving the college experience as it will be used throughout your current degree.

Tips:

- In order relocate the Mechanical and Nuclear Engineering homepage click on the logo of PennState College of Engineering. However, The Penn State University main online portal can be found under “Penn State” tab. Furthermore, the portal for The College of Engineering is linked under”College of Engineering”.





2.2 Chegg Study

Website



Location:

Homepage: www.chegg.com

Abstract:

Chegg is an American company that offers online textbook rental, online tutoring, homework help, and a wide range of data bank of different examples and exercises to help their visitors. The central focus of Chegg is to help students in high school and college. Chegg services include sciences majors, engineering majors, and finance majors, etc.

Users may rent or buy books and accesses them online from anywhere around the world. To do so, the user would have to enter the textbook's title or its information in the search bar under "Rent or buy books." Moreover, the students can find textbook solutions by entering the textbook's information in the search bar under "Find textbook solutions."

Additionally, the users may search for their questions in Chegg's data base, which keeps evolving year after year as the students enrich the data bank with the questions they ask and get answered later by an expert. However, in case the student wanted to put a question that was not answered before he/she may include the question to be answered by an expert. Under "Study" tab choose "Expert Q&A" next enter your question in the bar.

Furthermore, for the students interested in online live tutoring. They can do so with a shared board screen, side chat bar with the tutor and the lesson will be saved for the student to review it anytime later. Written lessons are the other option offered by Chegg's tutoring service. The tutoring services are linked under "tutors." Next, the site will prompt the users to enter the major and to search for tutors in that majors.

Chegg's has an honor code in the services provided by the tutors to all of their customers. Therefore, Chegg clearly states and follows their honor code, which prevents them from participating in any form of academic dishonesty.

Tips:

- Signing up for the site would be very useful as the website will prompt you to have a free trail on the different services to test them.
- To learn more about the system of Chegg's Tutors After choosing "Tutors" from the homepage. Choose "HOW IT WORKS" from the links on the top.



2.3 Engineering Leadership Development Program

Professional Organization

Location:

Homepage: <http://sedtapp.psu.edu/eld/index.aspx>

Abstract:

Engineering Leadership Development Program is a minor offered by the engineering department at The Pennsylvania State University. This program focuses on improving the engineering students to a professional level as it develops the students' understanding of individual, team, and organizational leadership. The minor motivate and incentivize their students by providing them with the Grand Challenge Scholar Program. The GCSP is a nationally recognized honor that Penn State's College of Engineering has undertaken. As their goal is to prepare undergraduates to improve the world's health, sustainability, and quality of life.

Undergraduate students, especially in the mechanical engineering, can utilize the facilities provided by this website to design an academic plan that fits them well. Many of the electives for the engineering majors can be taken from the minor classes by early planning.

Under "Programs" tab at the top, locate the Engineering Leadership Development section and choose "minor." After that, a description of the minor and their Alumni will be shown to introduce minor. On the right side of the page, handy links that are very informative about the minor. For example, "Courses" tab links the users to the academic plan for the minor, "Student Projects" prompts the reader to know more about the minors vision, and "Minor Application" is provided for those interested in applying into the minor. To contact the department choose "people," on the bottom left side of the page.

Tips:

- Use the search bar on the top to cruise through the website.
- The "Programs" tab has many tabs under it always make sure that you are under the program of your interest.



2.4 ME 325, Fluids Laboratory Homepage

Technical Databases

Location:

Homepage: <http://www.mne.psu.edu/me325/home.htm>

Abstract:

This website is offered by Professor John M. Cimbala of the Department of Mechanical and Nuclear Engineering of The Pennsylvania State University. The primary purpose of the site is to administrate the fluids laboratory at the PSU, main campus UP. The website offers a variety of fluids hands on experiments for undergraduate level students. The labs were presented under the assumption that the student would have a background in undergraduate level fluids mechanics, and instrumentation. Measurements, and Statics.

The tabs on the top of the page link to other pages relevant to students who are taking or interested in the mechanical engineering fluids lab at PSU, main campus. Under "labs" the site offers a variety of fluids experiments along with useful pre-lab calculations that can be helpful for any undergraduate level student interested in fluids lab.

The syllabus, TA's information, proposal instructions, and final project instructions can be found through links the on the top of the cover page.

Tips:

- The website has an update each semester, which includes new lab instruments and overall improvements in the lab experiments. Therefore, make sure that the cover page of the website has an updated date.
- Under "Labs" tab, ten lab experiments are listed. However, note that the first five experiments are independent content wise experiments, but the lab tests from lab five to ten depend on content from the first five lab experiments.



2.5 Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering

Technical Journal

Location:

Through “Lion Search” services offered by Pennsylvania State University Libraries.

URL: <https://libraries.psu.edu/>

Abstract:

Throughout the history, engineers had terrible calls and lessons from engineering errors that created disasters. A famous example would be Tacoma Narrows Bridge as the engineers in the major structure of the bridge did not study the uncertainty of their measurements[2]. Because of that, the bridge collapsed in 1940, and it was one of the worst engineering designs in history[3]. Therefore, studying the risk and uncertainty is critical for all of the engineers.

Part B of the journal focuses on mechanical engineering research findings, practices, and discussions on risk and uncertainty and relevant concerns. The uncertainty analysis in the journal covers the state of art and the state of the practice related to mechanical engineering. For example, the Journal reported on risk qualification based on hard identification, consequence assessment, and risk informed decision making, and other related areas.

All in all, this professional journal assist mechanical engineers to minimize the risk and the uncertainty in their designs by providing them with the guidance, the regulations, and the requirements for their measurements.

Tips:

- Junior and senior mechanical engineering students would find this journal helpful especially in their mechanical engineering labs and any mechanical engineering classes that include measurements. Examples of the classes that the journal would be useful to support are Experimental Determination of Mechanical Response of Materials (EMCH 316), Instrumentation, Measurements, and Statistics (ME 345), and Fluids Laboratory (ME325).
- To search for a particular measurement or technique use the search bar by clicking on "shift" plus "ctrl" plus "f." Then enter keywords to allocate and acquire the targeted information.



2.6 The Catalog of U.S. Government Publications (CGP)! Government Database

Location:

Homepage: <https://catalog.gpo.gov/F>

Abstract:

The Catalog of U.S. Government Publications contains detailed records of the historical and current publications from the legislative, executive, and judicial branches of the U.S. government [4]. Those records by the US government go back until 1976 with more than 500,000 records generated since then, and it is still growing, and it goes under consistent updates aiming to include all the records back to the 1800s.

The CGP is a handy tool for the engineering due to invaluable features that it has to provide the users with the needed information. Some of the features provided are direct links to online version of the publications, robust search engine, search options that include different levels of expertise, and an option that enable the users to share the publication via email.

The homepage has a search bar that prompts the user to search by the title, authoring agency, and general keywords. The CGP provides additional search options to the advanced and expert levels. Then the search can be narrowed to specific collections, such as maps, or congressional by using the tools at the top.

Tips:

- In the search bar input keywords or the exact title of the targeted publication or resource. Do not type in whole sentences as the keywords are a lot more effective and efficient.
- In the homepage under the search bar, two options to narrow the search were listed. First, keywords and then catalogs. Make sure to adjust them according to the type of information you have about the targeted resource. For instance, input the title's name only without the author when choosing the title option under keywords in the homepage.
- To save and share the resource for future reference. After allocating the resource, open it and then at the top right corner you would find a tab that would prompt you to email the resource.

3.0 Resources:

1. "Flaticon, the largest database of free vector icons." *Flaticon*. N.p., n.d. Web. 10 July 2017.
2. *YouTube*. YouTube, 30 Dec. 2012. Web. 13 July 2017.
3. Rogers, Shelby. "History's 10 Worst Engineering Disasters : Part 1." *Interesting Engineering*. N.p., 27 Nov. 2016. Web. 13 July 2017.
4. "About the Catalog of U.S. Government Publications (CGP)." *Entire CGP Catalog - About*. National Bibliography of U.S. Government Publications, n.d. Web. 13 July 2017.