Executive Summary
Technology & Engineering Collection Assessment
Submitted by Hanrong Wang
February 2022

INTRODUCTION

The Technology & Engineering collection is adequate to support the courses taught in the Applied Manufacturing Engineering and Applied Electronics Engineering Bachelors' programs and Manufacturing Systems Technology Master's program. Complete conspectus sheets and checklists are available upon request for a more detailed examination of the collection.

HOLDINGS

The Technology & Engineering collection contains **31,982** titles in the T, UG, VK, VM, and Z116-278 call number ranges, including **19,503** ebooks. Total monograph expenditures for the Technology & Engineering collection (Call Number range: T) from FY 2017/18 – FY 2021/2022 were **$59,545.96** with1,388 (1,357 in T and 31 in UG, VK, and VM) new titles added. These newer additions comprise 4.34% of the current Technology & Engineering collection.

The numbers in the following table represent a snapshot of the collection as titles are continually being added and withdrawn for collection maintenance and growth. These numbers do not represent additional titles available through e-book databases.

Classification	Subject Area	Library Holdings
T	Technology	**29,938**
UG	Military Engineering	**1,059**
VK	Navigation, Merchant Marine	**137**
VM	Naval Architecture, Shipbuilding, etc.	**223**
Z116-278	Printing	**625**
Total		**31,982**

Monograph Expenditures for Technology

Fiscal Year	Amount
2017-2018	$16,750.86
2018-2019	$19,936.80
2019-2020	$9,833.16
2020-2021	$10,658.06
2021-2022	$2,367.08 (incomplete)
Total	**$59,545.96**

PERIODICALS AND SERIALS

The Library has access to full-text journals available throughout the Library databases. There are 4,000 journals (2,495 for Technology; 1505 for Engineering) available electronically through database subscriptions, which can be found in EBSCO's Publication Finder at http://bit.ly/2zO6DjD. The Serials expenditures in support of Technology & Engineering for both print and electronic subscriptions and standing orders average $**9,825.70** from FY 2017-2018 to FY 2020-2021.

Serial Expenditures for Technology & Engineering

Fiscal Year	Amount
2017-2018	$9,404.46
2018-2019	$9,750.36
2019-2020	$9,760.90
2020-2021	$9,825.70
2021-2022	N/A (incomplete)
Total	**$38,741.42**

Expenditures for serials have migrated away from the individual subscription model to the aggregator database model. Dollar amounts spent on aggregator databases cannot be sub-divided into subject categories. In 2019-2020, aggregator databases totaled **$325,479.26**, which came from the general fund.

DEFINED ACCESS TO ELECTRONIC RESOURCES

Defined access points users to resources through menu options on the Library's homepage by linking the user to quality, highly relevant, electronic resources. Because the Library provides access to electronic journals, documents, e-books, and video databases along with integrated quality websites that encompass the area of Technology & Engineering, the Library's electronic collection in this subject is adequate to support the curriculum.

A complete list of all of the Library's databases can be found in the A to Z Database Listing at http://libguides.jsu.edu/az.php. The A to Z List also subdivides databases by subject, providing a list of all Technology related databases at https://libguides.jsu.edu/az.php?s=26283 and Engineering related databases at https://libguides.jsu.edu/az.php?s=31213. Additionally, the Applied Engineering /Technology guide (https://libguides.jsu.edu/appliedengineering), which is maintained by the subject specialist, provides a list of and access to the resources specifically for the subject area.

Complete details are available in the full assessment, which is available upon request or at http://bit.ly/2fyeMMU.

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INTRODUCTION

The Technology & Engineering collection is central to the University curriculum, since it supports study for degree programs in Applied Engineering at (both) the Bachelor's and Master's levels and degrees offered by the College of Business and Industry. The Technology & Engineering collection is adequate to support the courses taught in the Applied Manufacturing Engineering and Applied Electronics Engineering Bachelors' programs and Manufacturing Systems Technology Master's program. Complete conspectus sheets and checklists are available for a more detailed examination of the collection.

HOLDINGS

The Technology & Engineering collection contains **31,982** titles in the T, UG, VK, VM, and Z116-278 call number ranges, including **19,503** ebooks. Total monograph expenditures for the Technology & Engineering collection from FY 2017/18 – FY 2021/2022 were **$59,545.96** with 1,388 (1,357 in T and 31 in UG, VK, and VM) new titles added. These newer additions comprise about 4.34% of the current Technology & Engineering collection.

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SUPPLEMENTAL SUPPORT

Technology & Engineering is an interdisciplinary subject that extends beyond the boundaries of the discipline. Supplemental support for research includes Mathematics, Computer Science, Astronomy, Physics, and Chemistry. These and other subject assessments can be found at http://bit.ly/2fyeMMU.

Number of titles held for support subdivisions outside the Technology & Engineering Classification:

Classification	Category	Totals
QA	Mathematics, Computer Science	11,110
QB	Astronomy	2,134
QC	Physics	5,384
QD	Chemistry	2,328

TITLES ADDED/TITLES PUBLISHED

Below is a comparison of the number of book titles added to the Houston Cole Library collection versus those made available for sale each fiscal year through GOBI[1].

Monographs Added Versus Published Comparison (Call number range: T)

Fiscal Year	Added to Collection: T	YBP New Titles Report[2]	Percentage
2017-2018	425	5,910	7.0%
2018-2019	406	5,760	7.0%
2019-2020	221	5,550	4.0%
2020-2021	272	4,510	6.0%
2021-2022	33 (incomplete)	N/A	N/A
Totals	**1,357**	**21,730**	

[1] GOBI New Titles Report available: https://www.gobi3.com/StaticContent/GOBIContent/YBP/Private/Help/Pages/newtitlereport_us.html

[2] LC Subjects: All Publishers (Up and Trade)

CHECKLIST SUMMARIES

Bibliographies including *Choice's Outstanding Academic Titles*, *American Reference Books Annual*, and *Resources for College Libraries* were used to measure the quality of the Library's collection. In checking the bibliographies against the Library's catalog, the following percentages were revealed in the subject area of Technology & Engineering.

***Choice's* Outstanding Academic Titles 2017-2021**			
Year	**Collected**	**Listed**	**Percent Held**
2017	22	36	61.1%
2018	26	32	81.3%
2019	22	40	55.0%
2020	24	40	60.0%
2021	14	14	100%

***American Reference Books Annual* 2017-2019** (Engineering & Technology)			
Year	**Collected**	**Listed**	**Percent Held**
2017	4	16	25.0%
2018	6	10	60.0%
2019	8	16	50.0%
2020	N/A	N/A	N/A
2021	N/A	N/A	N/A

***Resources for College Libraries* Database*:* 2017-2021** (LC Classification: T)			
LC CLASS	**Collected**	**Listed**	**Percentage Held**
T	144	248	58.1%

WITHDRAWALS

As currency of information is very important in the Technology & Engineering collection, older books are withdrawn on a regular basis or as newer editions supersede them, and new books are ordered to fill gaps as curriculum requirements change. The table below shows withdrawals from the T, UG, VK, and VM classifications.

Fiscal Year	Call Number: T[3]	Call Number: TA-TP[3]	Call Number: TS[3]	Call Number: U-V[4]	Call Number: Z[4]	Totals
2017– 2018	5	27	1	8	21	**62**
2018– 2019	20	130	13	20	243	**426**
2019 –2020	12	19	10	13	1,363	**1,417**
2020 –2021	5	10	1	1,049	32	**1,092**
2021 –2022[5]	1	4	1	0	0	**6**
Totals	**43**	**190**	**26**	**1,090**	**1,659**	**3,008**

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The serial titles of Technology & Engineering listed under "Browse by Discipline" listings in EBSCO's Publication Finder at http://bit.ly/2zO6DjD were checked against subject

[3] Other T's: TR, TT1-179and TX (Family & Consumer Sciences)
[4] The Library cataloging statistics are not broken down to this level. The above classifications are as far as it can be broken down.
[5] 2021/22 is not complete. Withdrawal statistics are through December 2021.

bibliographies for both quantitative (*SJR*) and qualitative (*Scopus*) measures, revealing the corresponding percentages:

Quantitative Measurement	Listed in Publication Finder	Listed in *SJR* SCImago[6]	Percentage Held
Technology & Engineering	4,000	6,335	63.2%

Qualitative Measurement	Listed in Publication Finder	Listed in *Scopus*[7]	Percentage Held
Technology & Engineering	150	387	38.8%

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Through partnerships, such as the one with the Alabama Virtual Library (AVL), the Library is able to obtain more content. Resources provided to the Library by the AVL are designated with the AVL icon.

[6] SJR SCImago Journal & Country Rank: Engineering (All subject categories/All regions/countries/All types/ 2020): https://www.scimagojr.com/journalrank.php?area=2200

[7] Subject area: Engineering, titles in top10 percent, Journals: https://www.scopus.com/sources

SUMMARY

Strengths:

Total holdings, conspectus evaluation, and checklist comparisons indicate the overall Technology & Engineering collection is adequate to support the curriculum as well as the faculty research activities with a steady increase in all areas. The collection provides solid curriculum support for the Master of Science Degree with a major in Manufacturing Systems Technology, and the Bachelor of Science degree with majors in Applied Electronics Engineering, Applied Manufacturing Engineering with a concentration in Manufacturing Management, Applied Manufacturing Engineering with a concentration in Design and Automation, Industrial Leadership, and Occupational Safety and Health Management.

The collection is also adequate for directly supporting other academic programs and concentrations including Photography; Graphic Design; Ceramics; Printmaking; E-commence; Film; Production; Emergency Management; Secondary Education; Family and Consumer Sciences, and Mathematical, Computing & Information Sciences.

Publications encompassing the curriculum with the application of knowledge and the understanding of materials and production processes, occupational technology, concepts of management and human relations, marketing, communications, electronics, computer fundamentals, mathematics, physical sciences, applied optics, and graphics have been heavily selected, reflected in the conspectus sheets as: Technology (general); Engineering (general). Civil Engineering (General); Environmental technology. Sanitary engineering; Building construction; Mechanical engineering and machinery; Electrical engineering. Electronics. Nuclear engineering; Motor vehicles. Aeronautics. Astronautics; Photography; Manufactures; Handicrafts. Arts and crafts; Home economics; and Printing.

The areas less curriculum central (including Out of Scope areas) increased more slowly, reflected in the conspectus sheets as: Hydraulic engineering; Ocean Engineering; Highway engineering. Roads and pavements; Railroad engineering and operation; Bridge engineering; Mining engineering. Metallurgy; Military Engineering; Navigation, Merchant Marine; and Naval Architecture, Shipbuilding, etc.

Improvements have been achieved in the weak areas addressed in the previous assessment in 2017. New titles have been added to the areas: Bioengineering; Highway engineering. Roads and Pavements; Railroad engineering and operation; Maintenance and repair; and Environmental engineering of buildings. Sanitary engineering of buildings.

The availability of Technology & Engineering electronic books grew at a fast pace. Thousands of electronic books were added to the collection to support online and hybrid courses and remote access. The collection is maintained for currency, relevancy, and physical condition, which is evident through the withdrawal count.

A review of the Checklist Summaries and the journal holdings reveals that the Technology & Engineering collection is adequate with a good quality to support the curriculum and the research activities.

Weaknesses:

Total holdings, conspectus evaluations, and checklist summaries indicate that the weakest areas of the Technology & Engineering subject areas are: Engineering machinery, tools, and implements; Electric railways; High speed ground transportation; Chemical processing of wood; Building operation and housekeeping; Mobile home living; and Recreational vehicle living.

Recommendations:

The growth rate of the Technology & Engineering collection should be maintained to continue providing support for the Master of Science Degree with a major in Manufacturing Systems Technology, and the Bachelor of Science degree with majors in Applied Electronics Engineering; Applied Manufacturing Engineering with a concentration in Manufacturing Management; Applied Manufacturing Engineering with a concentration in Design and Automation; Industrial Leadership; and Occupational Safety and Health Management. The monograph collection should be generally increased, based on budget, with a strong focus on curriculum support and core and outstanding titles. The periodical collection available via databases is substantial and should be maintained. The weak subject areas (noted above) should also be addressed in future additions to the collection.