I. PURPOSE

1.01 The purpose of this OL is to describe the process by which funds are allocated to academic departments for library materials.

1.02 Specific objectives of this OL are:

a. To set forth the rationale for using a formula for allocating funds for library materials.

b. To record briefly the history of formula development at Texas State University.

c. To explain the allocation formula elements and the calculation process of departmental allocations.

d. To communicate the dates and regulations pertaining to the creation and spending of allocations.

II. Formula Rationale and History

2.01 The appropriation for the Library is intended to develop a collection which supports the research and educational goals of university faculty, students, and staff. To implement this objective the most substantial proportion of this appropriation is set aside to support the curriculum of this institution. This allocation is called the "Departmental Appropriation" and it is divided among the various academic departments.
2.02 The Allocation Formula was developed to ensure that a fair proportion of each annual Departmental Appropriation is allocated to each academic department. It attempts to accomplish this objective by giving mathematical weights to those factors considered to be most directly correlated with adequacy of library materials.

2.03 In 1966, the Faculty Library Committee and the University Library developed a formula by which to allocate book funds to academic departments.¹ It underwent annual changes from 1966/67 until April 18, 1969, when it assumed a stable form.²

2.04 In Fall 1979, the Learning Resources Center (LRC) administration brought to the attention of its supervisors and the LRC Committee the very serious problems posed by the rising cost of periodicals. The LRC recommendation was that funds for periodicals and serials be allocated by the formula in the same manner as funds for all other learning resources since 1966.³ The special budget for all serials would be eliminated.

2.05 On December 5, 1979, the Instructional Council referred four alternative formulas to the Faculty Senate with a suggestion that these be reviewed by the LRC Committee.⁴ The Faculty Senate agreed to this action.⁵ The LRC Committee review resulted in a recommendation that formula Alternative 4 be utilized in determining departmental allocations. Formula 4 gave the cost-of-serials factor equal weight with the factor for the cost of books. The Committee also recommended added factors for thesis courses and mini-thesis courses.⁶ The LRC administration accepted the entire recommendation except the provision for mini-thesis courses which were not defined.⁷

2.06 On January 28, 1987, the Library Committee voted to recommend that actual departmental average costs for monographs and serials be used in the formula, and that the Library begin to retain data so that a 3 year average could be considered in the future.⁸ (Attachment 1)

2.07 In Spring 1995 the Library Committee determined that all aspects of the Allocation Formula should be reviewed.⁹ A subcommittee to consider new factors in the formula was formed at the April 10, 1995 Library
Committee Meeting. A survey was distributed to the faculty on campus listing a large variety of factors that could be considered in an allocation formula. The subcommittee convened in the Fall of 1995, and using the survey as a starting point, devised an entirely new formula. The new formula was approved by the Library Committee March 29, 1996. The Faculty Senate approved the new formula October 2, 1996, and allocations to departments for the Fiscal Year 1997 were made according to this formula.

With the advent of PhD programs the formula was amended giving PhD Semester hours (SCH) a weight of 14. This was approved by the Faculty Senate June 21, 2000.

In April 2005 the Library Committee considered assignment of semester credit hours for the College of Education’s Interdisciplinary PhD programs. These semester credit hours will be credited to the Department of Counseling, Leadership, Adult Education, and School Psychology when computing the annual allocation for library materials.

In 2009 and 2010, the process of calculating supply and price indices was converted from a sequence of computer programs in the campus VMS environment to a process that can be completed entirely in Excel.

In 2013, the serial supply element was removed from the formula, due to the lack of specific enough supply data for many departments.

Also, in 2013, the Library returned to using a separate fund for continuing resources. The department allocations are still run with both monographic and continuing resources data and the library continues to track sponsoring department for allocation and serial review purposes. However, after running the allocation formula, the amount needed to renew each department’s subscriptions is transferred to a single subscription fund, to simplify the renewal process.

III. Current (1996) Formula Concepts

The allocation formula has two kinds of variables:

a. Those that estimate how many units are needed (quantity index)
b. Those that estimate the price per unit (price index)

The formula assigns an allocation index to each department:

\[
\text{Allocation-index} = (\text{Quantity-index}) \times (\text{Price-index})
\]

Once all the components of the allocation indices are known, the departmental allocation is computed by the funds available times the allocation index divided by the sum of all allocation indices. (See 3.4)

The allocation index is the average of the last two years’ and the new year’s indices, in order to minimize dramatic variations from one year to the next.

3.2 The Quantity Index consists of four elements. The larger the elements, the more funds are needed for the department. The elements are:

a. Number of majors. This is a count of undergraduate, Master’s, and PhD student majors in the most current Fall semester. The count is retrieved from the Student Enrollment pivot table available at the Institutional Research web site.

b. Full time equivalent faculty (FTFE). The count is obtained from the Office of Institutional Research shortly after the end of the summer sessions. At the time of data collection, the count is available for the previous fiscal year.

c. Credit hours taught in the fall and spring semesters, and interim and summer sessions previous to the fiscal year receiving the allocation. Separate counts are maintained for undergraduate, Master’s, and PhD credit hours. The formula multiplies master graduate credit hours times four and the PhD credit hours times fourteen. The count of semester credit hours is available upon request from the University’s Office of Institutional Research shortly after the end of the summer sessions.

d. Supply of monographs in subjects related to the department. The supply calculation involves three key elements, the department’s purchases by Library of Congress classification, all academic departments’ purchases in those LC codes, and market output in the
same LC codes, as derived from vendor data. For each LC code a department purchases in, the supply is calculated by dividing count of department purchases by all academic department’s purchases, and multiplying the result by the vendor supply in that LC code. The sum of supply figures for each of the department’s LC codes constitutes the overall supply figure for the department.

3.3 The Price Index consists of three elements listed below. The rationale for including price in the formula is to take into account that materials in some subject areas are much more expensive than in other areas.

a. Average price from vendors. The external monograph average price, "I", and external serials average price, "K", are calculated for each department using vendor average price data and the departments’ purchase data by LC class. Annual average book is from the LC classification table in YBP’s New Title Output and Price–All Publishers report. Serials data are obtained from Periodical Price Survey published in the April 15 Library Journal issue each year. Both sources provide output counts and average prices by LC classification.

b. Average price of serials and monographs bought by departments. These data are extracted at the end of the fiscal year from the library’s online system. The internal monograph average price, “J”, is the average price of monographs purchased/on order by each department in the last three (3) fiscal years. The internal serial average price, “L”, is the average price the department paid for their serials in the last fiscal year.

c. A weighted parameter number which regulates the importance given to the price indices. This number was chosen heuristically to minimize the number of departments with dramatic allocations changes between the 1966 and 1996 formula. The parameter 0.025 remains the same from year to year.

3.4 1996 Formula Computation. The departmental allocation is determined as:

\[(\text{Funds available}) \times (\text{allocation-index/total-allocation-indices})\]
Where the allocation index for each specific department (-i) is given by:

\[
\text{Allocation Index} = (\frac{B+i}{\text{total } B} + \frac{C+i}{\text{total } C} + \frac{F+i}{\text{total } F} + 0.5 \times \frac{G+i}{\text{total } G}) \times (\frac{I+i}{\text{total } I} + \frac{J+i}{\text{total } J} + \frac{K+i}{\text{total } K} + \frac{L+i}{\text{total } L} + 0.025)
\]

Where

- **B** = Majors
- **C** = FTE faculty
- **F** = Undergraduate-credit + 4 * (graduate masters 5000-7000 level credit hours) + 14 * (graduate PhD 7000 level credit hours)
- **G** = Supply of available monographs from vendor tables in the LC classes purchased by department (-i)
- **I** = Average price of all monographs from vendor tables, proportionate to LC classifications purchased by that department
- **J** = Average price of monographs the department purchased in the previous three fiscal years
- **K** = Average price of all serials from vendor tables, proportionate to LC classifications purchased by that department
- **L** = Average price of serials the department purchased/licensed in the previous year

IV. Calculation of Departmental Quantity and Price Indices

4.01 Departmental Monograph and Departmental Serial quantity and price indexes are calculated by combining purchase data with external (vendor supplied) price and supply data. These are calculated separately for monographs and serials.

4.02 **Example of departmental supply index calculation:** Suppose that there are only two departments and they buy from only three LC classifications.

Dept. #1 bought 250 monographs in LC code HA
- 300 with LC code HB
- 20 with LC code HC

Dept. #2 bought 350 monographs with LC code HA
- 400 with code HB
180 with code HC

In total, the library purchased 600 with LC code HA, 700 with code HB, and 200 with code HC.

Vendor (YBP) table shows the number of new books available:
2000 in LC code HA at an average price of $55.00;
1500 in LC code HB at an average price of $65.00;
3000 in LC code HC at an average price of $75.00.

<table>
<thead>
<tr>
<th></th>
<th>HA</th>
<th>HB</th>
<th>HC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept #1</td>
<td>250</td>
<td>300</td>
<td>20</td>
</tr>
<tr>
<td>Dept #2</td>
<td>350</td>
<td>400</td>
<td>180</td>
</tr>
<tr>
<td>Total</td>
<td>600</td>
<td>700</td>
<td>200</td>
</tr>
<tr>
<td>Vendor Supply</td>
<td>2000</td>
<td>1500</td>
<td>3000</td>
</tr>
</tbody>
</table>

Each department’s quantity index is determined by multiplying vendor supply data for the LC code by the proportion of titles purchased by the department vs. all departments in that LC code, and adding the multiplied amounts together:

Departmental quantity index for department #1:
\[(250/600)*2000 + (300/700)*1500 + (20/200)*3000 = 1776.19\]

Departmental quantity index for department #2:
\[(350/600)*2000 + (400/700)*1500 + (180/200)*3000 = 4723.81\]

The quantity indices above indicate that Dept. #1 buys from a smaller supply than that for Dept. #2. The supply figure goes to column G.

4.03 Example of departmental external average price index calculation:

The external average price calculation uses the same departmental purchase information and vendor average prices by LC classification:

<table>
<thead>
<tr>
<th></th>
<th>HA</th>
<th>HB</th>
<th>HC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept #1</td>
<td>250</td>
<td>300</td>
<td>20</td>
<td>570</td>
</tr>
<tr>
<td>Dept #2</td>
<td>350</td>
<td>400</td>
<td>180</td>
<td>930</td>
</tr>
<tr>
<td>Vendor Avg Price</td>
<td>$55</td>
<td>$65</td>
<td>$75</td>
<td></td>
</tr>
</tbody>
</table>

The external average price is calculated by multiplying department’s
item count in each LC code by the average price from vendor tables for that LC category. The multiplied amounts for department’s LC codes are added together and divided by the total number of titles purchased by the department:

Dept. #1 External Avg Price: \( \frac{(250 \times 55) + 300 \times 65 + 20 \times 75}{570} = 60.96 \)

Dept. #2 External Avg Price: \( \frac{(350 \times 55) + 400 \times 65 + 180 \times 75}{930} = 63.17 \)

The example external average price indices indicate that Dept. #1 has a lower weighted average cost than Dept. #2. This index goes to column K.

4.04 Two reports are exported from the library system to produce quantity and price indices:

a. Monographic + special material orders in the past 3 fiscal years
b. Subscriptions and standing orders in the last fiscal year

For each ordered title, the reports include: call number, department, number of copies, encumbrance price, price paid, and order status. Orders with multiple funds are split so that each department’s share of a multi-fund purchase will appear under their department.

4.05 Two versions of each report are saved in the spreadsheet, in two different tabs, one with all ordered materials, the other including only titles with LC call number. The calculation of the internal average price uses all items, while supply and average external price average calculations are based on the report including items with call number.

4.06 An “LC Class” column is added to the monograph supply and price spreadsheet, in which the first three characters of the call number are copied. All numbers and punctuation (.) are removed. Using Excel’s VLOOKUP, the values in the LC Class column are used to look up corresponding supply and average prices from the YBP vendor data spreadsheet for each item. Using a pivot table, average supply and price figures are calculated for each department code. The serials process is the same except it uses subscription and standing order data as the starting point and VLOOKUP queries Library Journal data table.
V. Calendar and Application of the Formula

5.01 The information necessary to compute the allocations is gathered late August – early September. The calculation is done after the library’s budget is approved.

5.02 By September 20, departmental allocations are announced to departments. The allocations represent the funds available for the purchase of new materials, after funds reserved for renewing existing subscriptions have been moved to the Central Subscription fund.

5.03 Target dates for department spending are at the end of December, at the end of March, and at the end of May. The subject librarian is responsible for selecting enough requests to spend one third of the working balance by each target date. If not enough requests are submitted to meet target balances by target dates, the Collection Development Librarian or the Head Acquisitions Librarian may select additional titles relevant to the discipline.

5.04 If by June 30 Collection Development / Acquisitions staff have exhausted options to spend the funds on items relevant to the subject area, Acquisitions retains the option to either 1) spend the funds on related materials needed by other departments or to 2) transfer the funds to general library fund to facilitate the purchasing of more expensive items benefiting all departments. No more than 3% of the department’s annual allocation can be transferred away.

5.05 Departments may request materials at any time during the year. New requests for journals and standing orders will need to be submitted by May 15 in order for them to be considered for that fiscal year.

5.06 Unfilled requests due to unavailability of funds are returned to the subject librarian in August for cancellation consideration. The librarian may consult with the department, as needed.

5.07 Amounts derived from the formula may be expended on all types of
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library materials except laboratory software and equipment; materials to be housed permanently in locations other than Alkek, Music Library, or Round Rock Campus; expendable materials such as workbooks and forms; and electronic resources with unacceptable license restrictions, such as limiting access to only one specific individual.

VI. REFERENCES

1. Faculty Library Committee Minutes, 13 April 1966.
2. Faculty Library Committee Minutes, 28 April 1969.
4. Instructional Council Minutes, 10 December 1979, Item IV.
5. Faculty Senate Newsletter, V (23 January 1980), Item 11.
10. Library Committee Minutes, 10 April 1995.
12. Library Committee Minutes, 29 March 1996.
13. Faculty Senate Minutes, 2 October 1996.
14. Memorandum to Library Funding for PhD Programs, 21 June 2000.

VII. REVIEW

6.01 This OL will be reviewed in October every five years, the next review is 2018.

6.02 This OL will be reviewed by the Head Acquisitions Librarian who will consult with the Associate Vice President and University Librarian, and the Library Committee.

VII. APPROVAL
7.01
Head Acquisitions Librarian                      Date

7.02
Associate Vice President and University Librarian Date